# tes Rechenbuch

für

# österreichische allgemeine Volksschulen.

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Von

Dr. Fr. Ritter v. Močnik.


Preis 16 h.

Wien.
Kaiserlich-königlicher Schulbücher-Verlag.

# Erstes Rechenbuch

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1901.




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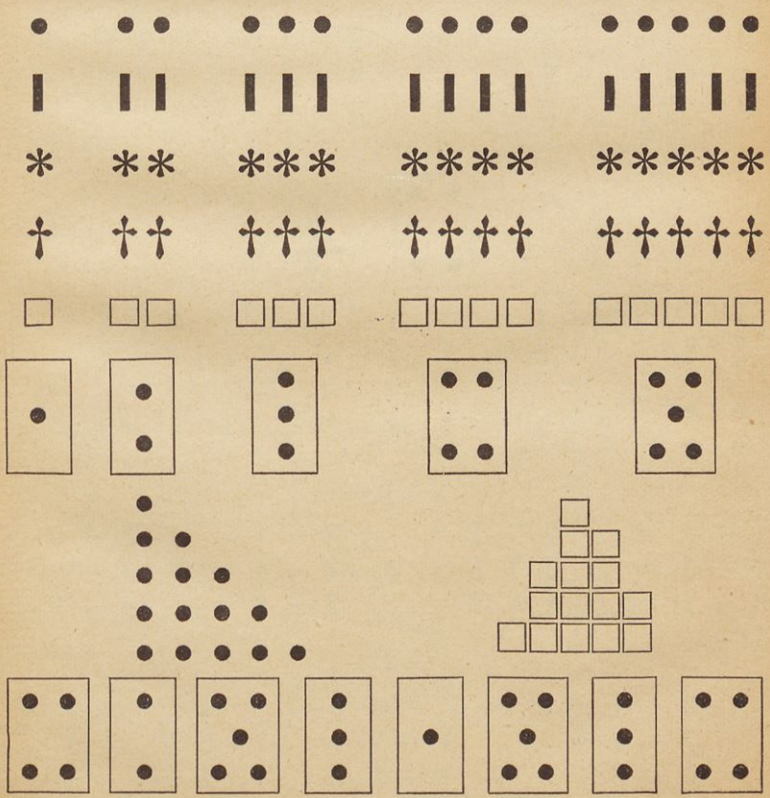
# Erster Abschnitt.

## Zahlenraum von eins bis zehn.

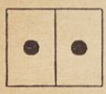
### Zahlen von eins bis fünf.

(Anschauung, Zuzählen und Wegzählen.)



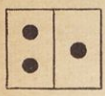
# 1

# 2



$1 + 1 =$ | $2 - 1 =$ | $2 = 1 +$ .

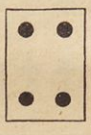
# 3



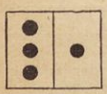
$2 + 1 =$ | $3 - 1 =$ | $3 = 2 +$ .
$1 + 2 =$ | $3 - 2 =$ | $2 = 1 +$ .

---

$1 + 1 =$ | $3 - 1 =$ | $2 = 1 +$ . | $2 +$ . $= 3$
$2 + 1 =$ | $2 - 1 =$ | $3 = 1 +$ . | $1 +$ . $= 2$
$1 + 2 =$ | $3 - 2 =$ | $3 = 2 +$ . | $1 +$ . $= 3$

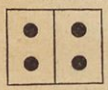


# 4



$3 + 1 =$ | $4 - 1 =$ | $4 = 3 +$ .
$1 + 3 =$ | $4 - 3 =$ | $4 = 1 +$ .

---



$2 + 2 =$ | $4 - 2 =$ | $4 = 2 +$ .

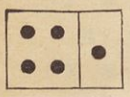
**– 1. –**

$1 + 1 =$ | $1 + 2 =$ | $3 - 1 =$ | $3 - 2 =$
$2 + 1 =$ | $2 + 2 =$ | $4 - 1 =$ | $4 - 2 =$
$3 + 1 =$ | $1 + 3 =$ | $2 - 1 =$ | $4 - 3 =$

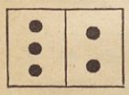
**– 2. –**

$2 = 1 +$ . | $3 = 1 +$ . | $2 +$ . $= 3$
$3 = 2 +$ . | $4 = 2 +$ . | $3 +$ . $= 4$
$4 = 3 +$ . | $4 = 1 +$ . | $2 +$ . $= 4$

# 5



| | | |
|---|---|---|
| $4 + 1 =$ | $5 - 1 =$ | $5 = 4 + .$ |
| $1 + 4 =$ | $5 - 4 =$ | $5 = 1 + .$ |



| | | |
|---|---|---|
| $3 + 2 =$ | $5 - 2 =$ | $5 = 3 + .$ |
| $2 + 3 =$ | $5 - 3 =$ | $5 = 2 + .$ |

— 1. —

| | | | |
|---|---|---|---|
| $1 + 1 =$ | $2 + 1 =$ | $1 + 2 =$ | $1 + 4 =$ |
| $4 + 1 =$ | $3 + 2 =$ | $1 + 3 =$ | $3 + 1 =$ |
| $3 + 1 =$ | $2 + 2 =$ | $2 + 3 =$ | $3 + 2 =$ |

— 2. —

| | | | |
|---|---|---|---|
| $2 - 1 =$ | $5 - 1 =$ | $4 - 2 =$ | $5 - 4 =$ |
| $3 - 1 =$ | $3 - 2 =$ | $4 - 3 =$ | $3 - 2 =$ |
| $4 - 1 =$ | $5 - 2 =$ | $5 - 3 =$ | $4 - 1 =$ |

— 3. —

| | | |
|---|---|---|
| $2 = 1 + .$ | $3 + . = 4$ | $2 + . = 4$ |
| $5 = 4 + .$ | $2 + . = 3$ | $1 + . = 4$ |
| $4 = 2 + .$ | $1 + . = 3$ | $2 + . = 5$ |
| $5 = 1 + .$ | $3 + . = 5$ | $1 + . = 5$ |

— 4. —

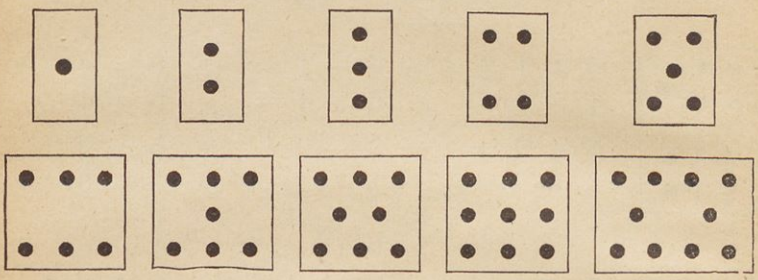
| | | |
|---|---|---|
| $1 + 1 + 1 =$ | $2 + 1 + 2 =$ | $2 + 2 - 1 =$ |
| $2 + 1 + 1 =$ | $2 + 2 + 1 =$ | $4 + 1 - 3 =$ |
| $1 + 2 + 1 =$ | $1 + 1 + 2 =$ | $2 + 3 - 4 =$ |
| $1 + 3 + 1 =$ | $1 + 1 + 3 =$ | $1 + 4 - 2 =$ |

— 5. —

| | | |
|---|---|---|
| $3 - 1 - 1 =$ | $5 - 1 - 2 =$ | $5 - 3 + 1 =$ |
| $5 - 1 - 1 =$ | $5 - 1 - 3 =$ | $4 - 2 + 3 =$ |
| $4 - 1 - 2 =$ | $5 - 2 - 2 =$ | $2 - 1 + 4 =$ |
| $4 - 2 - 1 =$ | $5 - 3 - 1 =$ | $5 - 4 + 2 =$ |

## Zahlen von eins bis zehn.

(Allseitige Behandlung.)



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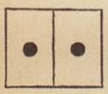
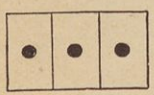
i 1  ⁘ 2 



$1 + 1 =$
$2 - 1 =$
$2 = 1 + .$

$2 \times 1 =$
$1$ in $2 =$
$\frac{1}{2}$ v. $2 =$

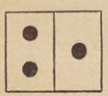
⁘ 3 



$1 + 1 + 1 =$

$3 \times 1 =$
$1$ in $3 =$
$\frac{1}{3}$ v. $3 =$

---



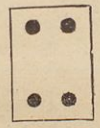
$2 + 1 =$
$1 + 2 =$
$3 - 1 =$
$3 - 2 =$

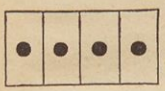
$3 = 2 + .$
$3 = 1 + .$
$2$ in $3 = 1$ (1)

---

| | | | |
|---|---|---|---|
| $2 + 1 =$ | $3 - 1 =$ | $3 \times 1 =$ | 1 in 3 = |
| $1 + 1 =$ | $3 - 2 =$ | $2 \times 1 =$ | 1 in 2 = |
| $1 + 2 =$ | $2 = 1 + .$ | $1 \times 1 =$ | ½ v. 2 = |
| $2 - 1 =$ | $3 = 1 + .$ | $1 \times 3 =$ | ⅓ v. 3 = |

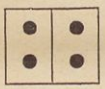
# 4



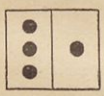


$1 + 1 + 1 + 1 =$

| | |
|---|---|
| | $4 \times 1 =$ |
| | 1 in 4 = |
| | ¼ v. 4 = |



| | |
|---|---|
| $2 + 2 =$ | $2 \times 2 =$ |
| $4 - 2 =$ | 2 in 4 = |
| $4 = 2 + .$ | ½ v. 4 = |



| | |
|---|---|
| $3 + 1 =$ | $4 = 3 + .$ |
| $1 + 3 =$ | $4 = 1 + .$ |
| $4 - 1 =$ | $1 \times 3 + 1 =$ |
| $4 - 3 =$ | 3 in 4 = |

## – 1. –

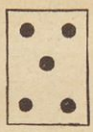
| | | | |
|---|---|---|---|
| $2 + 1 =$ | $1 + 2 =$ | $4 - 1 =$ | $3 - 2 =$ |
| $3 + 1 =$ | $2 + 2 =$ | $4 - 2 =$ | $3 - 3 =$ |
| $1 + 1 =$ | $2 - 1 =$ | $4 - 3 =$ | $1 - 1 =$ |
| $1 + 3 =$ | $3 - 1 =$ | $4 - 4 = 0$ | $2 - 2 =$ |

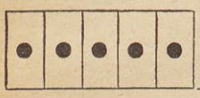
## – 2. –

| | | |
|---|---|---|
| $4 = 2 + .$ | $1 + . = 3$ | $2 + 1 + 1 =$ |
| $4 = 1 + .$ | $2 + . = 4$ | $3 + 1 - 2 =$ |
| $3 = 2 + .$ | $3 + . = 4$ | $4 - 2 - 1 =$ |

## – 3. –

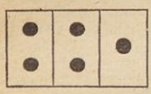
| | | |
|---|---|---|
| $2 \times 1 =$ | 2 in 4 = | ½ v. 2 = |
| $3 \times 1 =$ | 1 in 3 = | ½ v. 4 = |
| $1 \times 4 =$ | 1 in 4 = | ⅓ v. 3 = |
| $2 \times 2 =$ | 2 in 3 = | ¼ v. 4 = |

●●●●● 5 

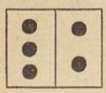


$1 + 1 + 1 + 1 + 1 =$

$5 \times 1 =$ | 1 in 5 = | 1/5 v. 5 =

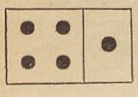


$2 + 2 + 1 =$
$2 \times 2 + 1 =$ | 2 in 5 =



$3 + 2 =$
$2 + 3 =$
$5 - 2 =$
$5 - 3 =$ |

$5 = 3 + .$
$5 = 2 + .$
$1 \times 3 + 2 =$
3 in 5 =



$4 + 1 =$
$1 + 4 =$
$5 - 1 =$
$5 - 4 =$ |

$5 = 4 + .$
$5 = 1 + .$
$1 \times 4 + 1 =$
4 in 5 =

## – 1. –

| | | | |
|---|---|---|---|
| $1 + 1 =$ | $5 - 1 =$ | $1 + 2 =$ | $4 - 2 =$ |
| $3 + 1 =$ | $4 - 1 =$ | $3 + 2 =$ | $5 - 2 =$ |
| $2 + 1 =$ | $2 - 1 =$ | $2 + 2 =$ | $4 - 3 =$ |
| $4 + 1 =$ | $3 - 1 =$ | $1 + 3 =$ | $5 - 5 =$ |
| $1 + 4 =$ | $1 - 1 =$ | $2 + 3 =$ | $5 - 3 =$ |

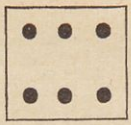
## – 2. –

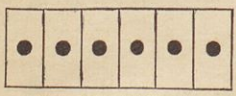
| | | |
|---|---|---|
| $3 = 2 + .$ | $1 + . = 3$ | $2 + 1 + 2 =$ |
| $4 = 3 + .$ | $4 + . = 5$ | $5 - 1 - 2 =$ |
| $5 = 2 + .$ | $3 + .. = 5$ | $3 + 2 - 1 =$ |
| $4 = 2 + .$ | $2 + . = 5$ | $5 - 4 + 3 =$ |

## – 3. –

| | | | |
|---|---|---|---|
| $3 \times 1 =$ | $1 \times 5 =$ | 1 in 5 = | 1/2 v. 2 = |
| $2 \times 2 =$ | $1 \times 4 =$ | 2 in 4 = | 1/4 v. 4 = |
| $5 \times 1 =$ | $1 \times 2 =$ | 2 in 5 = | 1/2 v. 4 = |
| $4 \times 1 =$ | $1 \times 1 =$ | 4 in 5 = | 1/5 v. 5 = |

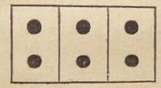
# iiiiii 6





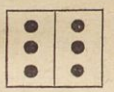
$1 + 1 + 1 + 1 + 1 + 1 =$

$6 \times 1 =$ | 1 in 6 = | 1/6 v. 6 =



$2 + 2 + 2 =$ | 2 in 6 =

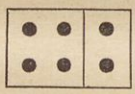
$3 \times 2 =$ | 1/3 v. 6 =



$3 + 3 =$ | $2 \times 3 =$

$6 - 3 =$ | 3 in 6 =

$6 = 3 + .$ | 1/2 v. 6 =

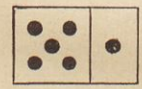


$4 + 2 =$ | $6 = 4 + .$

$2 + 4 =$ | $6 = 2 + .$

$6 - 2 =$ | $1 \times 4 + 2 =$

$6 - 4 =$ | 4 in 6 =



$5 + 1 =$ | $6 = 5 + .$

$1 + 5 =$ | $6 = 1 + .$

$6 - 1 =$ | $1 \times 5 + 1 =$

$6 - 5 =$ | 5 in 6 =

## – 1. –

| | | | |
|---|---|---|---|
| $2 + 1 =$ | $4 + 1 =$ | $3 + 2 =$ | $3 + 3 =$ |
| $2 - 1 =$ | $4 - 1 =$ | $3 - 2 =$ | $3 - 3 =$ |
| $3 + 1 =$ | $5 + 1 =$ | $4 + 2 =$ | $1 + 3 =$ |
| $3 - 1 =$ | $5 - 1 =$ | $4 - 2 =$ | $6 - 3 =$ |

## – 2. –

| | | | |
|---|---|---|---|
| $1 + 4 =$ | $1 + 5 =$ | $6 = 4 + .$ | $2 + . = 3$ |
| $6 - 4 =$ | $6 - 5 =$ | $4 = 1 + .$ | $1 + . = 6$ |
| $2 + 4 =$ | $1 + 1 =$ | $5 = 3 + .$ | $4 + . = 5$ |
| $5 - 4 =$ | $6 - 6 =$ | $6 = 2 + .$ | $2 + . = 6$ |

## – 3. –

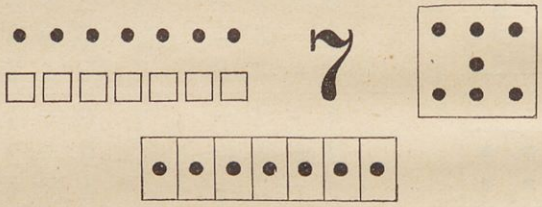
| | | |
|---|---|---|
| $2 + 1 + 3 =$ | $3 + 2 + 1 =$ | $1 + 2 + 2 =$ |
| $2 + 3 - 4 =$ | $1 + 5 - 3 =$ | $4 + 2 - 5 =$ |
| $5 - 1 + 2 =$ | $6 - 5 + 4 =$ | $4 - 3 + 5 =$ |
| $6 - 3 - 1 =$ | $6 - 4 - 2 =$ | $5 - 1 - 4 =$ |

— 4. —

| | | | |
|---|---|---|---|
| 3 × 2 = | 2 × . = 4 | 1 in 6 = | ½ v. 6 = |
| 2 × 3 = | 2 × . = 6 | 2 in 4 = | ½ v. 4 = |
| 2 × 2 = | 3 × . = 3 | 2 in 6 = | ⅓ v. 6 = |
| 6 × 1 = | 3 × . = 6 | 3 in 6 = | ⅙ v. 6 = |

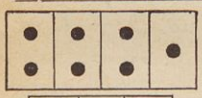
— 5. —

| | | |
|---|---|---|
| 3 × 1 + 2 = | 2 × 2 + 2 = | ½ v. 2 + 4 = |
| 2 × 3 − 4 = | 6 × 1 − 5 = | ⅓ v. 6 − 2 = |
| 1 × 5 − 3 = | 3 × 2 − 1 = | ½ v. 6 + 3 = |



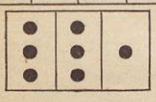

1 + 1 + 1 + 1 + 1 + 1 + 1 =

7 × 1 = | 1 in 7 = | ⅐ v. 7 =



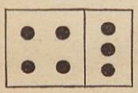
2 + 2 + 2 + 1 =
3 × 2 + 1 =

2 in 7 =



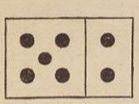
3 + 3 + 1 =
2 × 3 + 1 =

3 in 7 =



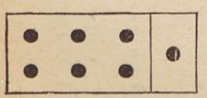
4 + 3 =
3 + 4 =
7 − 3 =
7 − 4 =

7 = 4 + .
7 = 3 + .
1 × 4 + 3 =
4 in 7 =



5 + 2 =
2 + 5 =
7 − 2 =
7 − 5 =

7 = 5 + .
7 = 2 + .
1 × 5 + 2 =
5 in 7 =



6 + 1 =
1 + 6 =
7 − 1 =
7 − 6 =

7 = 6 + .
7 = 1 + .
1 × 6 + 1 =
6 in 7 =

## — 1. —

| | | | |
|---|---|---|---|
| 1 + 2 = | 3 + 2 = | 6 + 1 = | 4 + 1 = |
| 3 − 1 = | 5 − 1 = | 7 − 2 = | 5 − 2 = |
| 2 + 2 = | 4 + 2 = | 5 + 1 = | 3 + 1 = |
| 4 − 1 = | 6 − 1 = | 6 − 2 = | 4 − 2 = |

## — 2. —

| | | | |
|---|---|---|---|
| 4 + 3 = | 2 + 3 = | 1 + 5 = | 1 + 3 = |
| 7 − 4 = | 5 − 4 = | 6 − 3 = | 5 − 4 = |
| 3 + 3 = | 1 + 3 = | 3 + 4 = | 2 + 5 = |
| 6 − 4 = | 4 − 4 = | 7 − 6 = | 7 − 7 = |

## — 3. —

| | | | |
|---|---|---|---|
| 2 + 1 = | 7 = 6 + . | 4 + . = 5 | 7 − 1 = |
| 5 + 2 = | 6 = 4 + . | 5 + . = 7 | 3 − 2 = |
| 2 + 3 = | 5 = 2 + . | 3 + . = 6 | 4 − 3 = |
| 2 + 4 = | 7 = 3 + . | 1 + . = 6 | 7 − 5 = |
| 1 + 6 = | 4 = 1 + . | 2 + . = 7 | 6 − 6 = |

## — 4. —

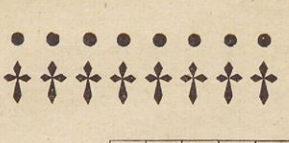
| | | |
|---|---|---|
| 2 + 2 + 2 = | 3 − 2 + 1 = | 5 − 2 − 1 = |
| 1 + 3 + 2 = | 5 − 2 + 4 = | 6 − 3 − 2 = |
| 2 + 3 + 1 = | 7 − 5 + 3 = | 4 − 1 − 2 = |
| 5 + 2 − 4 = | 7 − 3 + 1 = | 6 − 2 − 3 = |
| 5 + 1 − 2 = | 4 − 3 + 6 = | 7 − 5 − 1 = |
| 2 + 4 − 2 = | 7 − 4 − 2 = | 7 − 3 − 4 = |

## — 5. —

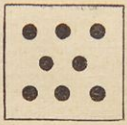
| | | | |
|---|---|---|---|
| 1 × 2 = | 6 = 3 × . | 2 in 4 = | ½ v. 4 = |
| 2 × 2 = | 4 = 2 × . | 2 in 6 = | ½ v. 6 = |
| 3 × 2 = | 2 = 1 × . | 3 in 6 = | ⅓ v. 3 = |
| 2 × 3 = | 6 = 2 × . | 4 in 7 = | ⅓ v. 6 = |
| 7 × 1 = | 7 = 1 × . | 5 in 7 = | ¼ v. 4 = |

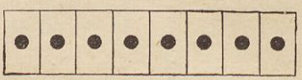
## — 6. —

| | | |
|---|---|---|
| 1 × 5 + 2 = | 1 × 6 − 4 = | ½ v. 4 + 4 = |
| 2 × 3 − 3 = | 4 × 1 + 3 = | ½ v. 6 − 3 = |
| 3 × 2 + 1 = | 1 × 1 + 5 = | ⅓ v. 6 + 5 = |
| 7 × 1 − 4 = | 7 × 1 − 7 = | ¼ v. 4 + 4 = |



8

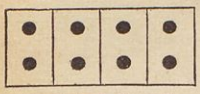




$1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 =$

$8 \times 1 =$ | $1$ in $8 =$ | $1/8$ v. $8 =$

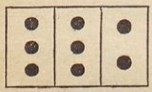
---



$2 + 2 + 2 + 2 =$
$4 \times 2 =$

$2$ in $8 =$
$1/4$ v. $8 =$

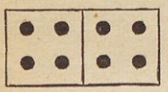
---



$3 + 3 + 2 =$
$2 \times 3 + 2 =$

$3$ in $8 =$

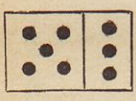
---



$4 + 4 =$
$8 - 4 =$
$8 = 4 + .$

$2 \times 4 =$
$4$ in $8 =$
$1/2$ v. $8 =$

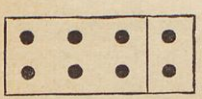
---



$5 + 3 =$
$3 + 5 =$
$8 - 3 =$
$8 - 5 =$

$8 = 5 + .$
$8 = 3 + .$
$1 \times 5 + 3 =$
$5$ in $8 =$

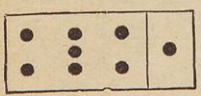
---



$6 + 2 =$
$2 + 6 =$
$8 - 2 =$
$8 - 6 =$

$8 = 6 + .$
$8 = 2 + .$
$1 \times 6 + 2 =$
$6$ in $8 =$

---



$7 + 1 =$
$1 + 7 =$
$8 - 1 =$
$8 - 7 =$

$8 = 7 + .$
$8 = 1 + .$
$1 \times 7 + 1 =$
$7$ in $8 =$

---

– 1. –

| | | | |
|---|---|---|---|
| $1 + 1 =$ | $2 + 2 =$ | $6 - 1 =$ | $4 - 2 =$ |
| $3 + 1 =$ | $6 + 2 =$ | $8 - 1 =$ | $8 - 2 =$ |
| $7 + 1 =$ | $5 + 2 =$ | $5 - 1 =$ | $6 - 2 =$ |
| $5 + 1 =$ | $4 + 2 =$ | $7 - 1 =$ | $3 - 2 =$ |

— 2. —

| | | | |
|---|---|---|---|
| 2 + 1 = | 1 + 3 = | 3 + 4 = | 3 + 5 = |
| 4 + 1 = | 4 + 3 = | 1 + 4 = | 2 + 5 = |
| 6 + 1 = | 5 + 3 = | 4 + 4 = | 2 + 6 = |
| 1 + 2 = | 3 + 3 = | 2 + 4 = | 1 + 6 = |
| 3 + 2 = | 2 + 3 = | 1 + 5 = | 1 + 7 = |

— 3. —

| | | | |
|---|---|---|---|
| 4 − 1 = | 5 − 3 = | 6 − 4 = | 8 − 5 = |
| 3 − 1 = | 8 − 3 = | 7 − 4 = | 7 − 5 = |
| 2 − 1 = | 7 − 3 = | 8 − 4 = | 7 − 6 = |
| 7 − 2 = | 4 − 3 = | 5 − 5 = | 7 − 7 = |
| 5 − 2 = | 4 − 4 = | 6 − 5 = | 8 − 7 = |

— 4. —

| | | |
|---|---|---|
| 8 = 3 + . | 2 + . = 8 | 3 + 1 + 1 = |
| 6 = 4 + . | 6 + . = 7 | 2 + 2 + 1 = |
| 7 = 5 + . | 1 + . = 5 | 2 + 3 + 3 = |

— 5. —

| | | |
|---|---|---|
| 5 + 2 + 1 = | 5 − 1 − 2 = | 3 + 5 − 7 = |
| 4 + 1 + 3 = | 4 − 2 − 1 = | 2 + 6 − 5 = |
| 6 + 1 + 1 = | 8 − 1 − 5 = | 5 + 1 − 4 = |
| 3 + 3 + 2 = | 7 − 3 − 1 = | 6 − 1 + 2 = |
| 1 + 4 + 1 = | 6 − 3 − 3 = | 7 − 3 + 4 = |
| 2 + 3 + 2 = | 8 − 4 − 2 = | 8 − 5 + 3 = |

— 6. —

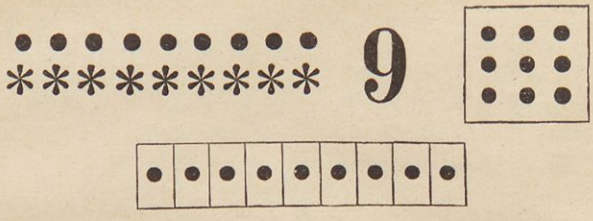
| | | | |
|---|---|---|---|
| 3 × 2 = | 4 × 2 = | 2 × . = 6 | . × 1 = 6 |
| 2 × 4 = | 1 × 6 = | 1 × . = 7 | . × 2 = 4 |
| 7 × 1 = | 2 × 3 = | 4 × . = 8 | . × 4 = 8 |

— 7. —

| | | | |
|---|---|---|---|
| 2 in 8 = | 3 in 6 = | ½ v. 4 = | ⅓ v. 6 = |
| 2 in 6 = | 4 in 8 = | ½ v. 8 = | ¼ v. 8 = |
| 2 in 5 = | 5 in 7 = | ½ v. 6 = | ⅛ v. 8 = |

— 8. —

| | | |
|---|---|---|
| 2 × 2 + 4 = | 2 × 4 − 5 = | ½ v. 4 + 5 = |
| 3 × 2 + 1 = | 2 × 3 − 2 = | ⅓ v. 6 + 6 = |
| 4 × 1 + 3 = | 7 × 1 − 4 = | ½ v. 8 − 3 = |

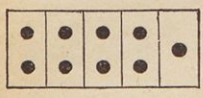


# 9

$1+1+1+1+1+1+1+1+1=$

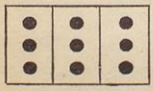
$9 \times 1 =$ | $1$ in $9 =$ | $1/9$ v. $9 =$

---



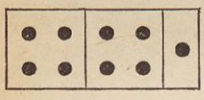
$2+2+2+2+1=$
$4 \times 2+1=$ | $2$ in $9 =$

---



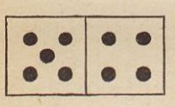
$3+3+3=$
$3 \times 3=$ | $3$ in $9 =$
$1/3$ v. $9 =$

---



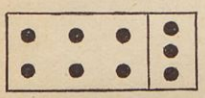
$4+4+1=$
$2 \times 4+1=$ | $4$ in $9 =$

---



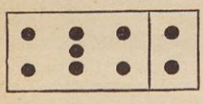
$5+4=$
$4+5=$
$9-4=$
$9-5=$ | $9=5+.$
$9=4+.$
$1 \times 5+4=$
$5$ in $9 =$

---



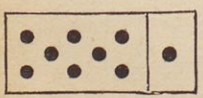
$6+3=$
$3+6=$
$9-3=$
$9-6=$ | $9=6+.$
$9=3+.$
$1 \times 6+3=$
$6$ in $9 =$

---



$7+2=$
$2+7=$
$9-2=$
$9-7=$ | $9=7+.$
$9=2+.$
$1 \times 7+2=$
$7$ in $9 =$

---



$8+1=$
$1+8=$
$9-1=$
$9-8=$ | $9=8+.$
$9=1+.$
$1 \times 8+1=$
$8$ in $9 =$

— 1. —

| | | | |
|---|---|---|---|
| 7 + 1 = | 6 + 2 = | 3 + 3 = | 5 + 2 = |
| 2 + 2 = | 5 + 1 = | 1 + 8 = | 1 + 5 = |
| 1 + 3 = | 6 + 3 = | 3 + 5 = | 2 + 6 = |
| 2 + 4 = | 7 + 2 = | 2 + 3 = | 2 + 7 = |

— 2. —

| | | | |
|---|---|---|---|
| 5 − 1 = | 8 − 2 = | 8 − 5 = | 5 − 3 = |
| 6 − 2 = | 6 − 4 = | 9 − 4 = | 8 − 8 = |
| 4 − 3 = | 4 − 1 = | 7 − 1 = | 9 − 6 = |
| 9 − 1 = | 6 − 3 = | 9 − 2 = | 9 − 7 = |

— 3. —

| | | |
|---|---|---|
| 7 + 1 + 1 = | 7 − 1 − 2 = | 2 + 7 − 3 = |
| 5 + 2 + 2 = | 6 − 3 − 1 = | 3 + 4 − 5 = |
| 1 + 4 + 3 = | 9 − 2 − 5 = | 8 − 3 + 2 = |
| 3 + 2 + 4 = | 6 − 2 − 4 = | 5 − 1 + 4 = |

— 4. —

| | | |
|---|---|---|
| 6 = 5 + . | 8 + . = 9 | 2 + 1 + 2 + 3 = |
| 7 = 4 + . | 5 + . = 7 | 9 − 3 − 4 − 1 = |
| 9 = 6 + . | 3 + . = 6 | 4 + 4 − 5 + 6 = |
| 8 = 4 + . | 2 + . = 8 | 8 − 2 + 3 − 7 = |

— 5. —

| | | | |
|---|---|---|---|
| 2 × 1 = | 4 × 2 = | 1 × 6 = | 4 × 1 = |
| 1 × 5 = | 6 × 1 = | 2 × 2 = | 1 × 9 = |
| 2 × 4 = | 1 × 8 = | 1 × 7 = | 3 × 2 = |
| 3 × 3 = | 3 × 1 = | 2 × 3 = | 5 × 1 = |

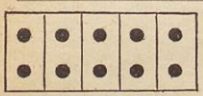
— 6. —

| | | | |
|---|---|---|---|
| 2 in 6 = | 3 in 9 = | 1/4 v. 4 = | 1/2 v. 4 = |
| 2 in 4 = | 4 in 8 = | 1/2 v. 8 = | 1/4 v. 8 = |
| 3 in 6 = | 3 in 7 = | 1/5 v. 5 = | 1/3 v. 9 = |
| 2 in 8 = | 5 in 9 = | 1/3 v. 6 = | 1/2 v. 6 = |

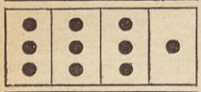
— 7. —

| | | |
|---|---|---|
| 8 = 2 × . | . × 2 = 4 | 2 × 3 + 1 = |
| 6 = 3 × . | . × 4 = 8 | 3 × 3 − 7 = |
| 9 = 3 × . | . × 2 = 6 | 1/2 v. 8 + 5 = |
| 6 = 2 × . | . × 1 = 9 | 1/3 v. 9 − 2 = |

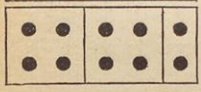

1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 =
10 × 1 = | 1 in 10 | 1/10 v. 10 =



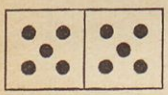
2 + 2 + 2 + 2 + 2 =
5 × 2 =
| 2 in 10 =
1/5 v. 10 =



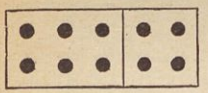
3 + 3 + 3 + 1 =
3 × 3 + 1 =
| 3 in 10 =



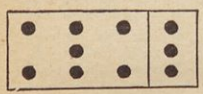
4 + 4 + 2 =
2 × 4 + 2 =
| 4 in 10 =



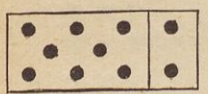
5 + 5 =
10 − 5 =
10 = 5 + .
| 2 × 5 =
5 in 10 =
1/2 v. 10 =



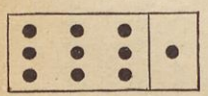
6 + 4 =
4 + 6 =
10 − 4 =
10 − 6 =
| 10 = 6 + .
10 = 4 + .
1 × 6 + 4 =
6 in 10 =



7 + 3 =
3 + 7 =
10 − 3 =
10 − 7 =
| 10 = 7 + .
10 = 3 + .
1 × 7 + 3 =
7 in 10 =



8 + 2 =
2 + 8 =
10 − 2 =
10 − 8 =
| 10 = 8 + .
10 = 2 + .
1 × 8 + 2 =
8 in 10 =



9 + 1 =
1 + 9 =
10 − 1 =
10 − 9 =
| 10 = 9 + .
10 = 1 + .
1 × 9 + 1 =
9 in 10 =

## — 1. —

| | | | |
|---|---|---|---|
| 6 + 1 = | 4 + 2 = | 4 + 4 = | 2 + 6 = |
| 2 + 1 = | 6 + 2 = | 2 + 4 = | 4 + 6 = |
| 7 + 1 = | 1 + 2 = | 6 + 4 = | 1 + 6 = |
| 8 + 1 = | 5 + 2 = | 5 + 4 = | 3 + 6 = |
| 4 + 1 = | 8 + 2 = | 3 + 4 = | 2 + 7 = |
| 9 + 1 = | 4 + 3 = | 2 + 5 = | 1 + 7 = |
| 3 + 1 = | 6 + 3 = | 4 + 5 = | 3 + 7 = |
| 5 + 1 = | 3 + 3 = | 1 + 5 = | 1 + 8 = |
| 3 + 2 = | 7 + 3 = | 5 + 5 = | 2 + 8 = |
| 7 + 2 = | 5 + 3 = | 3 + 5 = | 1 + 9 = |

## — 2. —

| | | | |
|---|---|---|---|
| 8 − 1 = | 5 − 2 = | 6 − 3 = | 8 − 5 = |
| 5 − 1 = | 8 − 2 = | 8 − 4 = | 9 − 6 = |
| 2 − 1 = | 3 − 2 = | 5 − 4 = | 10 − 6 = |
| 4 − 1 = | 10 − 2 = | 9 − 4 = | 8 − 6 = |
| 9 − 1 = | 7 − 2 = | 6 − 4 = | 7 − 6 = |
| 6 − 1 = | 4 − 3 = | 7 − 4 = | 9 − 7 = |
| 10 − 1 = | 10 − 3 = | 10 − 4 = | 8 − 7 = |
| 7 − 1 = | 9 − 3 = | 9 − 5 = | 10 − 8 = |
| 6 − 2 = | 5 − 3 = | 7 − 5 = | 9 − 8 = |
| 9 − 2 = | 8 − 3 = | 10 − 5 = | 10 − 9 = |

## — 3. —

| | | |
|---|---|---|
| 7 = 5 + . | 2 + . = 10 | 6 + 1 + 2 = |
| 10 = 7 + . | 3 + . = 7 | 5 + 2 + 3 = |
| 6 = 2 + . | 4 + . = 9 | 4 + 1 + 4 = |
| 8 = 3 + . | 5 + . = 10 | 5 + 4 + 1 = |
| 5 = 1 + . | 6 + . = 8 | 4 + 3 + 2 = |
| 10 = 4 + . | 7 + . = 9 | 3 + 6 + 1 = |

## — 4. —

| | | |
|---|---|---|
| 2 + 8 − 5 = | 10 − 6 + 3 = | 10 − 1 − 7 = |
| 4 + 5 − 6 = | 8 − 2 + 4 = | 9 − 2 − 5 = |
| 3 + 6 − 4 = | 9 − 3 + 2 = | 8 − 3 − 4 = |
| 5 + 5 − 3 = | 7 − 5 + 8 = | 10 − 2 − 6 = |
| 7 + 3 − 8 = | 5 − 3 + 6 = | 6 − 2 − 2 = |
| 9 + 1 − 7 = | 8 − 4 + 5 = | 9 − 3 − 3 = |

— 5. —

| | | |
|---|---|---|
| 1 + 1 = | 7 + 2 + 1 = | 6 + 1 + 1 + 2 = |
| 2 + 2 = | 2 + 3 + 4 = | 7 + 2 + 1 − 8 = |
| 2 + 3 = | 7 + 1 − 2 = | 2 + 6 − 5 + 4 = |
| 1 + 4 = | 6 + 4 − 5 = | 9 + 1 − 2 − 5 = |
| 4 − 2 = | 9 − 1 + 2 = | 10 − 7 + 4 + 1 = |
| 7 − 3 = | 10 − 7 + 6 = | 8 − 4 + 6 − 3 = |
| 6 − 5 = | 8 − 2 − 4 = | 6 − 1 − 3 + 8 = |
| 10 − 7 = | 10 − 5 − 3 = | 10 − 5 − 3 − 1 = |

— 6. —

| | | | |
|---|---|---|---|
| 3 × 1 = | 1 × 2 = | 2 × 4 = | 8 = 2 × . |
| 7 × 1 = | 5 × 2 = | 1 × 5 = | 6 = 3 × . |
| 6 × 1 = | 3 × 2 = | 2 × 5 = | 2 = 2 × . |
| 2 × 1 = | 4 × 2 = | 1 × 6 = | 10 = 5 × . |
| 5 × 1 = | 2 × 2 = | 1 × 7 = | . × 3 = 9 |
| 8 × 1 = | 2 × 3 = | 1 × 8 = | . × 2 = 6 |
| 4 × 1 = | 3 × 3 = | 1 × 9 = | . × 1 = 7 |
| 10 × 1 = | 1 × 3 = | 1 × 10 = | . × 5 = 10 |

— 7. —

| | | | |
|---|---|---|---|
| 1 in 5 = | 2 in 4 = | 3 in 9 = | 6 in 6 = |
| 1 in 8 = | 2 in 8 = | 3 in 6 = | 7 in 10 = |
| 1 in 4 = | 2 in 10 = | 4 in 8 = | 8 in 10 = |
| 1 in 10 = | 2 in 6 = | 5 in 10 = | 9 in 9 = |

— 8. —

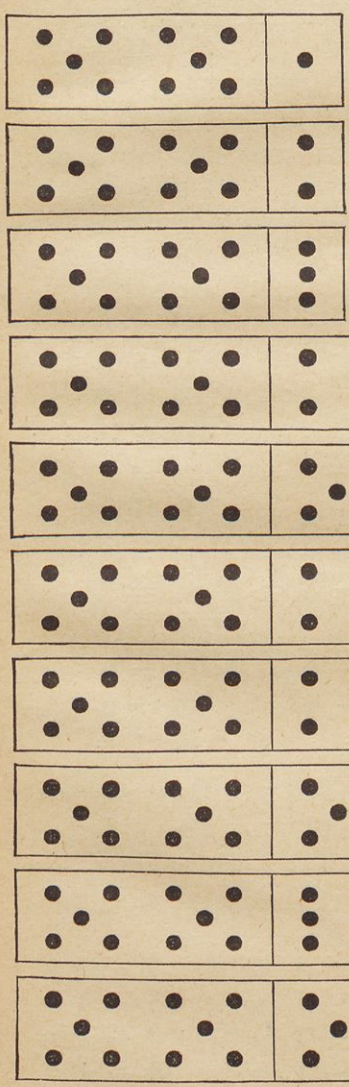
| | | | |
|---|---|---|---|
| 1/2 v. 10 = | 1/2 v. 6 = | 1/4 v. 8 = | 1/6 v. 6 = |
| 1/2 v. 4 = | 1/3 v. 9 = | 1/4 v. 4 = | 1/8 v. 8 = |
| 1/2 v. 8 = | 1/3 v. 3 = | 1/5 v. 5 = | 1/9 v. 9 = |
| 1/2 v. 2 = | 1/3 v. 6 = | 1/5 v. 10 = | 1/10 v. 10 = |

— 9. —

| | | |
|---|---|---|
| 2 × 3 + 4 = | 3 × 2 + 4 = | 1/4 v. 8 + 7 = |
| 3 × 1 + 5 = | 3 × 2 − 4 = | 1/5 v. 10 + 6 = |
| 2 × 2 + 6 = | 2 × 2 + 2 = | 1/2 v. 6 − 3 = |
| 5 × 2 − 7 = | 2 × 2 − 2 = | 1/2 v. 10 − 4 = |
| 2 × 4 − 5 = | 3 × 3 + 1 = | 1/3 v. 9 − 2 = |
| 2 × 5 − 6 = | 3 × 3 − 1 = | 1/2 v. 8 − 3 = |

# Zweiter Abschnitt.

## Erweiterung des Zahlenraumes bis zwanzig.



10 + 1 = 11

10 + 2 = 12

10 + 3 = 13

10 + 4 = 14

10 + 5 = 15

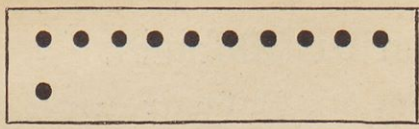
10 + 6 = 16

10 + 7 = 17

10 + 8 = 18

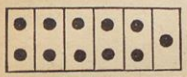
10 + 9 = 19

10 + 10 = 20



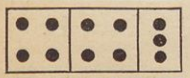
**11**

$11 \times 1 =$ | 1 in 11 =

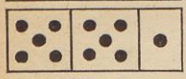


$5 \times 2 + 1 =$ | 2 in 11 =

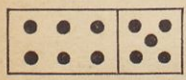
$3 \times 3 + 2 =$ | 3 in 11 =



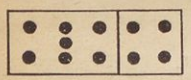
$2 \times 4 + 3 =$ | 4 in 11 =



$2 \times 5 + 1 =$ | 5 in 11 =



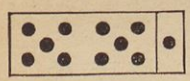
$6 + 5 =$ | $11 - 5 =$ | $11 = 6 + .$
$5 + 6 =$ | $11 - 6 =$ | $11 = 5 + .$
$1 \times 6 + 5 =$ | 6 in 11 =



$7 + 4 =$ | $11 - 4 =$ | $11 = 7 + .$
$4 + 7 =$ | $11 - 7 =$ | $11 = 4 + .$
$1 \times 7 + 4 =$ | 7 in 11 =

$8 + 3 =$ | $11 - 3 =$ | $11 = 8 + .$
$3 + 8 =$ | $11 - 8 =$ | $11 = 3 + .$
$1 \times 8 + 3 =$ | 8 in 11 =

$9 + 2 =$ | $11 - 2 =$ | $11 = 9 + .$
$2 + 9 =$ | $11 - 9 =$ | $11 = 2 + .$
$1 \times 9 + 2 =$ | 9 in 11 =



$10 + 1 =$ | $11 - 1 =$ | $11 = 10 + .$
$1 + 10 =$ | $11 - 10 =$ | $11 = 1 + .$
$1 \times 10 + 1 =$ | 10 in 11 =

— 1. —

| | | | |
|---|---|---|---|
| $1 + 1 =$ | $6 + 1 =$ | $2 - 1 =$ | $7 - 1 =$ |
| $2 + 1 =$ | $7 + 1 =$ | $3 - 1 =$ | $8 - 1 =$ |
| $3 + 1 =$ | $8 + 1 =$ | $4 - 1 =$ | $9 - 1 =$ |
| $4 + 1 =$ | $9 + 1 =$ | $5 - 1 =$ | $10 - 1 =$ |
| $5 + 1 =$ | $10 + 1 =$ | $6 - 1 =$ | $11 - 1 =$ |

## — 2. —

| | | | | |
|---|---|---|---|---|
| 3 + 1 = | 5 + 1 = | 9 − 1 = | 8 − 1 = | 5 + 1 + 1 = |
| 8 + 1 = | 9 + 1 = | 6 − 1 = | 2 − 1 = | 8 + 1 + 1 = |
| 4 + 1 = | 2 + 1 = | 11 − 1 = | 10 − 1 = | 7 − 1 − 1 = |
| 7 + 1 = | 6 + 1 = | 3 − 1 = | 4 − 1 = | 10 − 1 − 1 = |
| 10 + 1 = | 1 + 1 = | 5 − 1 = | 7 − 1 = | 6 + 1 − 1 = |

## — 3. —

| | | | | |
|---|---|---|---|---|
| 9 + 1 = | 5 + 5 = | 7 + 4 = | 9 + 2 = | 3 + 8 = |
| 8 + 2 = | 4 + 6 = | 7 + 3 = 10 | 5 + 6 = | 2 + 9 = |
| 7 + 3 = | 3 + 7 = | 10 + 1 = 11 | 8 + 3 = | 6 + 5 = |
| 6 + 4 = | 2 + 8 = | 7 + 4 = 11 | 4 + 7 = | |

## — 4. —

| | | | | |
|---|---|---|---|---|
| 10 − 1 = | 10 − 7 = | 11 − 4 = | 11 − 2 = | 11 − 6 = |
| 10 − 2 = | 10 − 5 = | 11 − 1 = 10 | 11 − 5 = | 11 − 9 = |
| 10 − 4 = | 10 − 6 = | 10 − 3 = 7 | 11 − 8 = | 11 − 7 = |
| 10 − 8 = | 10 − 3 = | 11 − 4 = 7 | 11 − 3 = | |

## — 5. —

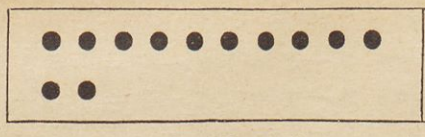
| | | | |
|---|---|---|---|
| 5 × 2 = | 4 × 1 = | 6 = . × 3 | 2 × 4 + 3 = |
| 2 × 4 = | 3 × 2 = | 8 = . × 2 | 3 × 2 + 5 = |
| 3 × 3 = | 1 × 9 = | 10 = . × 5 | 1 × 5 + 4 = |
| 4 × 2 = | 2 × 2 = | 9 = 3 × . | 5 × 2 − 7 = |
| 2 × 3 = | 2 × 5 = | 4 = 4 × . | 3 × 3 − 6 = |

## — 6. —

| | | | | |
|---|---|---|---|---|
| 2 in 10 = | 4 in 4 = | 2 in 5 = | 4 in 6 = | 7 in 10 = |
| 2 in 6 = | 4 in 8 = | 2 in 9 = | 4 in 11 = | 8 in 9 = |
| 2 in 8 = | 5 in 10 = | 2 in 11 = | 5 in 7 = | 8 in 11 = |
| 3 in 9 = | 6 in 6 = | 3 in 8 = | 5 in 11 = | 9 in 10 = |
| 3 in 6 = | 9 in 9 = | 3 in 11 = | 6 in 11 = | 9 in 11 = |

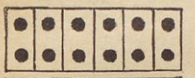
## — 7. —

| | | | |
|---|---|---|---|
| 1/2 v. 6 = | 1/2 v. 2 = | 1/4 v. 8 = | 1/6 v. 6 = |
| 1/2 v. 10 = | 1/3 v. 9 = | 1/4 v. 4 = | 1/8 v. 8 = |
| 1/2 v. 4 = | 1/3 v. 3 = | 1/5 v. 5 = | 1/9 v. 9 = |
| 1/2 v. 8 = | 1/3 v. 6 = | 1/5 v. 10 = | 1/10 v. 10 = |



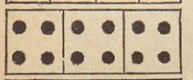
**12**

$12 \times 1 =$ | $1$ in $12 =$

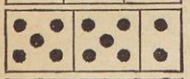


$6 \times 2 =$ | $2$ in $12 =$ | $1/6$ v. $12 =$

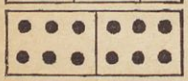
$4 \times 3 =$ | $3$ in $12 =$ | $1/4$ v. $12 =$



$3 \times 4 =$ | $4$ in $12 =$ | $1/3$ v. $12 =$

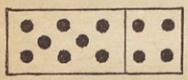


$2 \times 5 + 2 =$ | $5$ in $12 =$



$6 + 6 =$ | $12 - 6 =$ | $12 = 6 +$ .
$2 \times 6 =$ | $6$ in $12 =$ | $1/2$ v. $12 =$

$7 + 5 =$ | $12 - 5 =$ | $12 = 7 +$ .
$5 + 7 =$ | $12 - 7 =$ | $12 = 5 +$ .
$1 \times 7 + 5 =$ | $7$ in $12 =$



$8 + 4 =$ | $12 - 4 =$ | $12 = 8 +$ .
$4 + 8 =$ | $12 - 8 =$ | $12 = 4 +$ .
$1 \times 8 + 4 =$ | $8$ in $12 =$

$9 + 3 =$ | $12 - 3 =$ | $12 = 9 +$ .
$3 + 9 =$ | $12 - 9 =$ | $12 = 3 +$ .
$1 \times 9 + 3 =$ | $9$ in $12 =$

$10 + 2 =$ | $12 - 2 =$ | $12 = 10 +$ .
$2 + 10 =$ | $12 - 10 =$ | $12 = 2 +$ .
$1 \times 10 + 2 =$ | $10$ in $12 =$

— 1. —

| | | | |
|---|---|---|---|
| $1 + 2 =$ | $6 + 2 =$ | $3 - 2 =$ | $8 - 2 =$ |
| $2 + 2 =$ | $7 + 2 =$ | $4 - 2 =$ | $9 - 2 =$ |
| $3 + 2 =$ | $8 + 2 =$ | $5 - 2 =$ | $10 - 2 =$ |
| $4 + 2 =$ | $9 + 2 =$ | $6 - 2 =$ | $11 - 2 =$ |
| $5 + 2 =$ | $10 + 2 =$ | $7 - 2 =$ | $12 - 2 =$ |

— 2. —

| | | | | |
|---|---|---|---|---|
| $3 + 2 =$ | $10 + 2 =$ | $2 + 2 =$ | $11 - 2 =$ | $8 - 2 =$ |
| $1 + 2 =$ | $5 + 2 =$ | $7 + 2 =$ | $3 - 2 =$ | $12 - 2 =$ |
| $9 + 2 =$ | $8 + 2 =$ | $9 - 2 =$ | $7 - 2 =$ | $6 - 2 =$ |
| $4 + 2 =$ | $6 + 2 =$ | $5 - 2 =$ | $10 - 2 =$ | $4 - 2 =$ |

— 3. —

| | | | |
|---|---|---|---|
| 7 + 2 + 2 = | 10 − 2 − 2 = | 9 + 2 − 2 = | 11 − 1 + 2 = |
| 8 + 2 + 2 = | 8 − 2 − 2 = | 11 + 1 − 2 = | 6 − 2 + 2 = |
| 6 + 2 + 1 = | 12 − 2 − 1 = | 8 + 2 − 1 = | 5 − 1 + 2 = |
| 9 + 1 + 2 = | 7 − 1 − 2 = | 10 + 1 − 2 = | 7 − 2 + 1 = |
| 3 + 2 + 1 = | 9 − 2 − 1 = | 7 + 2 − 1 = | 9 − 2 + 2 = |

— 4. —

| | | | | |
|---|---|---|---|---|
| 9 + 1 = | 7 + 4 = | 4 + 8 = | 11 − 1 = | 12 − 2 = |
| 9 + 3 = | 6 + 4 = | 4 + 7 = | 11 − 3 = | 12 − 3 = |
| 9 + 2 = | 6 + 5 = | 3 + 7 = | 11 − 5 = | 12 − 6 = |
| 8 + 2 = | 6 + 6 = | 3 + 8 = | 11 − 7 = | 12 − 4 = |
| 8 + 3 = | 5 + 5 = | 3 + 9 = | 11 − 9 = | 12 − 7 = |
| 8 + 4 = | 5 + 6 = | 2 + 8 = | 11 − 4 = | 12 − 5 = |
| 7 + 3 = | 5 + 7 = | 2 + 9 = | 11 − 2 = | 12 − 9 = |
| 7 + 5 = | 4 + 6 = | 1 + 9 = | 11 − 8 = | 12 − 8 = |

— 5. —

| | | | | |
|---|---|---|---|---|
| 3 × 4 = | 2 × 2 = | 2 × 6 = | 4 × 3 = | 6 = . × 2 |
| 5 × 2 = | 7 × 1 = | 3 × 2 = | 1 × 6 = | 12 = . × 3 |
| 2 × 3 = | 3 × 3 = | 8 × 1 = | 9 × 1 = | 8 = . × 2 |
| 6 × 2 = | 2 × 5 = | 4 × 2 = | 1 × 10 = | 10 = 5 × . |
| 2 × 4 = | 1 × 9 = | 1 × 7 = | 3 × 1 = | 12 = 2 × . |

— 6. —

| | | | | |
|---|---|---|---|---|
| 2 in 4 = | 2 in 8 = | 2 in 9 = | 2 in 10 = | 2 in 12 = |
| 3 in 4 = | 3 in 8 = | 3 in 9 = | 3 in 10 = | 3 in 12 = |
| 2 in 6 = | 4 in 8 = | 5 in 9 = | 4 in 10 = | 4 in 12 = |
| 3 in 6 = | 5 in 8 = | 6 in 9 = | 5 in 10 = | 5 in 12 = |
| 5 in 6 = | 7 in 8 = | 8 in 9 = | 7 in 10 = | 6 in 12 = |

— 7. —

| | | | |
|---|---|---|---|
| 1/2 v. 6 = | 1/2 v. 8 = | 1/9 v. 9 = | 1/2 v. 12 = |
| 1/3 v. 6 = | 1/4 v. 8 = | 1/2 v. 10 = | 1/3 v. 12 = |
| 1/6 v. 6 = | 1/8 v. 8 = | 1/5 v. 10 = | 1/4 v. 12 = |
| 1/7 v. 7 = | 1/3 v. 9 = | 1/10 v. 10 = | 1/6 v. 12 = |

— 8. —

| | | |
|---|---|---|
| 2 × 5 + 2 = | 5 × 2 + 1 = | 1/4 v. 8 + 9 = |
| 6 × 2 − 3 = | 4 × 3 − 5 = | 1/2 v. 10 − 4 = |
| 3 × 3 + 3 = | 3 × 2 + 6 = | 1/6 v. 12 + 5 = |
| 3 × 4 − 4 = | 2 × 6 − 7 = | 1/4 v. 12 − 3 = |

**13**

| | | |
|---|---|---|
| | $13 \times 1 =$ | $1$ in $13 =$ |
| | $6 \times 2 + 1 =$ | $2$ in $13 =$ |
| | $4 \times 3 + 1 =$ | $3$ in $13 =$ |
| | $3 \times 4 + 1 =$ | $4$ in $13 =$ |
| | $2 \times 5 + 3 =$ | $5$ in $13 =$ |
| | $2 \times 6 + 1 =$ | $6$ in $13 =$ |
| | $7 + 6 =$ / $6 + 7 =$ / $1 \times 7 + 6 =$ | $13 - 6 =$ / $13 - 7 =$ | $13 = 7 + .$ / $13 = 6 + .$ / $7$ in $13 =$ |
| | $8 + 5 =$ / $5 + 8 =$ / $1 \times 8 + 5 =$ | $13 - 5 =$ / $13 - 8 =$ | $13 = 8 + .$ / $13 = 5 + .$ / $8$ in $13 =$ |
| | $9 + 4 =$ / $4 + 9 =$ / $1 \times 9 + 4 =$ | $13 - 4 =$ / $13 - 9 =$ | $13 = 9 + .$ / $13 = 4 + .$ / $9$ in $13 =$ |
| | $10 + 3 =$ / $3 + 10 =$ / $1 \times 10 + 3 =$ | $13 - 3 =$ / $13 - 10 =$ | $13 = 10 + .$ / $13 = 3 + .$ / $10$ in $13 =$ |

— 1. —

| | | | |
|---|---|---|---|
| $1 + 3 =$ | $6 + 3 =$ | $4 - 3 =$ | $9 - 3 =$ |
| $2 + 3 =$ | $7 + 3 =$ | $5 - 3 =$ | $10 - 3 =$ |
| $3 + 3 =$ | $8 + 3 =$ | $6 - 3 =$ | $11 - 3 =$ |
| $4 + 3 =$ | $9 + 3 =$ | $7 - 3 =$ | $12 - 3 =$ |
| $5 + 3 =$ | $10 + 3 =$ | $8 - 3 =$ | $13 - 3 =$ |

— 2. —

| | | | | |
|---|---|---|---|---|
| $7 + 3 =$ | $2 + 3 =$ | $1 + 3 =$ | $4 - 3 =$ | $12 - 3 =$ |
| $4 + 3 =$ | $6 + 3 =$ | $8 + 3 =$ | $11 - 3 =$ | $9 - 3 =$ |
| $10 + 3 =$ | $9 + 3 =$ | $10 - 3 =$ | $8 - 3 =$ | $6 - 3 =$ |
| $3 + 3 =$ | $5 + 3 =$ | $7 - 3 =$ | $5 - 3 =$ | $13 - 3 =$ |

## — 3. —

| | | | |
|---|---|---|---|
| 7+3+3 = | 13−3−3 = | 8+3−2 = | 6+3+2+1 = |
| 5+3+3 = | 11−3−3 = | 6+2−3 = | 12+1−2−3 = |
| 6+3+3 = | 9−3−3 = | 9+3−1 = | 10−3+2+3 = |
| 8+3+2 = | 12−3−2 = | 13−3+2 = | 5+3+3−2 = |
| 4+3+1 = | 10−3−1 = | 11−2+3 = | 7+2−1+3 = |
| 9+2+2 = | 8−2−1 = | 10−1+3 = | 11−3+2+1 = |

## — 4. —

| | | | | |
|---|---|---|---|---|
| 9 + 1 = | 7 + 3 = | 5 + 5 = | 11 − 1 = | 12 − 6 = |
| 9 + 4 = | 7 + 5 = | 5 + 8 = | 11 − 6 = | 13 − 3 = |
| 9 + 2 = | 7 + 4 = | 5 + 6 = | 11 − 4 = | 13 − 5 = |
| 9 + 3 = | 7 + 6 = | 4 + 6 = | 11 − 7 = | 13 − 7 = |
| 8 + 2 = | 6 + 4 = | 4 + 9 = | 12 − 2 = | 13 − 9 = |
| 8 + 4 = | 6 + 7 = | 4 + 7 = | 12 − 5 = | 13 − 8 = |
| 8 + 3 = | 6 + 6 = | 3 + 7 = | 12 − 8 = | 13 − 6 = |
| 8 + 5 = | 6 + 5 = | 3 + 9 = | 12 − 3 = | 13 − 4 = |

## — 5. —

| | | | | |
|---|---|---|---|---|
| 3 × 2 = | 5 × 2 = | 3 × 4 = | 2 × 5 = | 10 = . × 5 |
| 6 × 2 = | 3 × 1 = | 2 × 4 = | 2 × 6 = | 6 = . × 2 |
| 4 × 2 = | 3 × 3 = | 4 × 1 = | 7 × 1 = | 12 = 3 × . |
| 2 × 2 = | 3 × 2 = | 4 × 3 = | 1 × 9 = | 8 = 4 × . |

## — 6. —

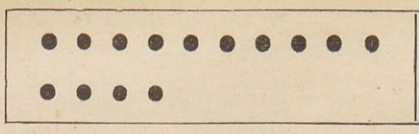
| | | | |
|---|---|---|---|
| 2 in 10 = | 3 in 6 = | 4 in 8 = | 6 in 6 = |
| 2 in 4 = | 3 in 12 = | 4 in 12 = | 6 in 12 = |
| 2 in 6 = | 3 in 3 = | 5 in 5 = | 7 in 11 = |
| 2 in 8 = | 3 in 9 = | 5 in 10 = | 9 in 12 = |

## — 7. —

| | | | |
|---|---|---|---|
| ½ v. 10 = | ½ v. 6 = | ⅓ v. 12 = | ⅕ v. 10 = |
| ½ v. 8 = | ½ v. 2 = | ¼ v. 4 = | ⅕ v. 5 = |
| ½ v. 4 = | ⅓ v. 9 = | ¼ v. 8 = | ⅙ v. 6 = |
| ½ v. 12 = | ⅓ v. 3 = | ¼ v. 12 = | ⅙ v. 12 = |

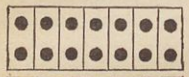
## — 8. —

| | | |
|---|---|---|
| 2 × 3 + 7 = | 2 × 6 − 5 = | ⅓ v. 12 + 9 = |
| 4 × 2 + 4 = | 4 × 3 − 6 = | ½ v. 12 − 5 = |
| 3 × 3 + 3 = | 5 × 2 − 8 = | ½ v. 10 + 7 = |
| 2 × 2 + 9 = | 2 × 4 − 3 = | ⅓ v. 12 − 3 = |



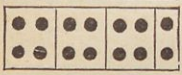
# 14

$14 \times 1 =$ | 1 in 14 =

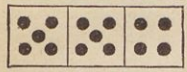


$7 \times 2 =$ | 2 in 14 = | 1/7 v. 14 =

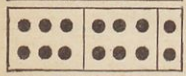
$4 \times 3 + 2 =$ | 3 in 14 =



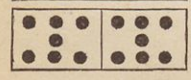
$3 \times 4 + 2 =$ | 4 in 14 =



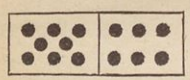
$2 \times 5 + 4 =$ | 5 in 14 =



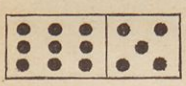
$2 \times 6 + 2 =$ | 6 in 14 =



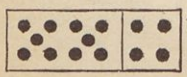
$7 + 7 =$ | $14 - 7 =$ | $14 = 7 +$ .
$2 \times 7 =$ | 7 in 14 = | 1/2 v. 14 =



$8 + 6 =$ | $14 - 6 =$ | $14 = 8 +$ .
$6 + 8 =$ | $14 - 8 =$ | $14 = 6 +$ .
$1 \times 8 + 6 =$ | 8 in 14 =



$9 + 5 =$ | $14 - 5 =$ | $14 = 9 +$ .
$5 + 9 =$ | $14 - 9 =$ | $14 = 5 +$ .
$1 \times 9 + 5 =$ | 9 in 14 =



$10 + 4 =$ | $14 - 4 =$ | $14 = 10 +$ .
$4 + 10 =$ | $14 - 10 =$ | $14 = 4 +$ .
$1 \times 10 + 4 =$ | 10 in 14 =

— 1. —

| | | | |
|---|---|---|---|
| $1 + 4 =$ | $6 + 4 =$ | $5 - 4 =$ | $10 - 4 =$ |
| $2 + 4 =$ | $7 + 4 =$ | $6 - 4 =$ | $11 - 4 =$ |
| $3 + 4 =$ | $8 + 4 =$ | $7 - 4 =$ | $12 - 4 =$ |
| $4 + 4 =$ | $9 + 4 =$ | $8 - 4 =$ | $13 - 4 =$ |
| $5 + 4 =$ | $10 + 4 =$ | $9 - 4 =$ | $14 - 4 =$ |

— 2. —

| | | | | |
|---|---|---|---|---|
| $3 + 4 =$ | $12 - 4 =$ | $5 + 2 =$ | $7 - 2 =$ | $2 + 3 =$ |
| $7 + 4 =$ | $8 - 4 =$ | $9 + 2 =$ | $11 - 2 =$ | $5 + 3 =$ |
| $4 + 4 =$ | $10 - 4 =$ | $8 + 2 =$ | $12 - 3 =$ | $8 + 3 =$ |
| $9 + 4 =$ | $6 - 4 =$ | $4 + 2 =$ | $6 - 3 =$ | $4 + 3 =$ |

— 3. —

| | | | |
|---|---|---|---|
| 6+4+4= | 14−4−4= | 9+4−3= | 2+4+4+4= |
| 3+4+4= | 12−4−4= | 8+4−3= | 13−4−4−4= |
| 4+4+4= | 9−4−4= | 10+3−4= | 7+4+3−4= |
| 7+4+3= | 11−4−3= | 7+4−2= | 9+4−4+3= |
| 8+4+1= | 10−4−2= | 13−4+3= | 3+4−3+2= |
| 10+1+3= | 7−2−3= | 12−4+2= | 8+3−2+4= |
| 9+2+3= | 8−4−1= | 11−3+4= | 7−4−1+3= |
| 2+4+1= | 6−2−3= | 9−2+4= | 6+3−2+4= |

— 4. —

| | | | | |
|---|---|---|---|---|
| 9 + 3 = | 6 + 6 = | 11 − 4 = | 13 − 5 = | 14 − 4 = |
| 9 + 5 = | 6 + 8 = | 11 − 6 = | 13 − 9 = | 14 − 6 = |
| 8 + 6 = | 5 + 6 = | 11 − 8 = | 13 − 6 = | 14 − 9 = |
| 8 + 4 = | 5 + 9 = | 12 − 5 = | 13 − 4 = | 14 − 8 = |
| 7 + 5 = | 4 + 7 = | 12 − 3 = | 13 − 8 = | 14 − 5 = |
| 7 + 7 = | 4 + 9 = | 12 − 9 = | 13 − 7 = | 14 − 7 = |

— 5. —

| | | | | |
|---|---|---|---|---|
| 2 × 4 = | 2 × 2 = | 3 × 3 = | 6 × 1 = | 12 = . × 4 |
| 2 × 6 = | 2 × 5 = | 4 × 3 = | 6 × 2 = | 10 = . × 2 |
| 2 × 3 = | 3 × 4 = | 4 × 2 = | 7 × 2 = | 14 = 2 × . |
| 2 × 7 = | 3 × 2 = | 5 × 2 = | 8 × 1 = | 9 = 3 × . |

— 6. —

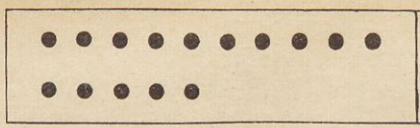
| | | | |
|---|---|---|---|
| 2 in 6 = | 3 in 12 = | 2 in 14 = | 2 in 13 = |
| 4 in 12 = | 2 in 8 = | 2 in 4 = | 3 in 10 = |
| 7 in 14 = | 4 in 8 = | 3 in 3 = | 4 in 14 = |
| 3 in 9 = | 2 in 10 = | 2 in 12 = | 5 in 12 = |
| 5 in 10 = | 3 in 6 = | 8 in 8 = | 6 in 11 = |

— 7. —

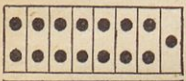
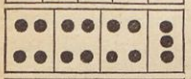
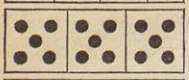
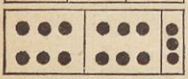
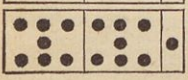
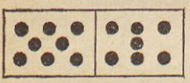
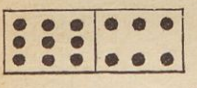
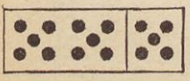
| | | | |
|---|---|---|---|
| 1/3 v. 6 = | 1/8 v. 8 = | 1/3 v. 12 = | 1/2 v. 10 = |
| 1/5 v. 10 = | 1/6 v. 12 = | 1/7 v. 14 = | 1/4 v. 8 = |
| 1/4 v. 12 = | 1/3 v. 9 = | 1/4 v. 4 = | 1/6 v. 6 = |
| 1/2 v. 14 = | 1/2 v. 4 = | 1/2 v. 8 = | 1/2 v. 12 = |

— 8. —

| | | |
|---|---|---|
| 3 × 3 + 5 = | 5 × 2 + 4 = | 1/7 v. 14 + 8 = |
| 2 × 7 − 6 = | 2 × 6 − 9 = | 1/3 v. 12 − 3 = |
| 4 × 2 + 4 = | 2 × 2 + 7 = | 1/2 v. 4 + 5 = |
| 2 × 4 − 3 = | 7 × 2 − 8 = | 1/2 v. 14 − 2 = |



# 15

| | | | |
|---|---|---|---|
| | $15 \times 1 =$ | $1$ in $15 =$ | |
|  | $7 \times 2 + 1 =$ | $2$ in $15 =$ | |
|  | $5 \times 3 =$ | $3$ in $15 =$ | $\frac{1}{5}$ v. $15 =$ |
|  | $3 \times 4 + 3 =$ | $4$ in $15 =$ | |
|  | $3 \times 5 =$ | $5$ in $15 =$ | $\frac{1}{3}$ v. $15 =$ |
|  | $2 \times 6 + 3 =$ | $6$ in $15 =$ | |
|  | $2 \times 7 + 1 =$ | $7$ in $15 =$ | |
|  | $8 + 7 =$<br>$7 + 8 =$<br>$1 \times 8 + 7 =$ | $15 - 7 =$<br>$15 - 8 =$<br>$8$ in $15 =$ | $15 = 8 +$ .<br>$15 = 7 +$ . |
|  | $9 + 6 =$<br>$6 + 9 =$<br>$1 \times 9 + 6 =$ | $15 - 6 =$<br>$15 - 9 =$<br>$9$ in $15 =$ | $15 = 9 +$ .<br>$15 = 6 +$ . |
|  | $10 + 5 =$<br>$5 + 10 =$<br>$1 \times 10 + 5 =$ | $15 - 5 =$<br>$15 - 10 =$<br>$10$ in $15 =$ | $15 = 10 +$ .<br>$15 = 5 +$ . |

## – 1. –

| | | | |
|---|---|---|---|
| $1 + 5 =$ | $6 + 5 =$ | $6 - 5 =$ | $11 - 5 =$ |
| $2 + 5 =$ | $7 + 5 =$ | $7 - 5 =$ | $12 - 5 =$ |
| $3 + 5 =$ | $8 + 5 =$ | $8 - 5 =$ | $13 - 5 =$ |
| $4 + 5 =$ | $9 + 5 =$ | $9 - 5 =$ | $14 - 5 =$ |
| $5 + 5 =$ | $10 + 5 =$ | $10 - 5 =$ | $15 - 5 =$ |

## – 2. –

| | | | | |
|---|---|---|---|---|
| $7 + 5 =$ | $3 + 5 =$ | $11 - 5 =$ | $7 + 4 =$ | $5 + 3 =$ |
| $2 + 5 =$ | $8 + 5 =$ | $6 - 5 =$ | $7 - 4 =$ | $5 - 3 =$ |
| $9 + 5 =$ | $14 - 5 =$ | $13 - 5 =$ | $10 + 4 =$ | $9 + 3 =$ |
| $4 + 5 =$ | $9 - 5 =$ | $7 - 5 =$ | $10 - 4 =$ | $9 - 3 =$ |

## — 3. —

| | | | |
|---|---|---|---|
| 12 + 3 = | 11 + 2 = | 15 − 4 = | 13 − 1 = |
| 2 + 3 = 5 | 11 + 4 = | 5 − 4 = 1 | 14 − 2 = |
| 10 + 5 = 15 | 12 + 2 = | 10 + 1 = 11 | 14 − 3 = |
| 12 + 3 = 15 | 13 + 2 = | 15 − 4 = 11 | 15 − 1 = |
| | 14 + 1 = | | 15 − 3 = |

## — 4. —

| | | | |
|---|---|---|---|
| 5+5+5 = | 14−5−5 = | 9+5−4 = | 2+3+4+5 = |
| 2+5+5 = | 11−5−5 = | 11+4−5 = | 15−3−5−4 = |
| 4+5+5 = | 13−5−5 = | 3+5−2 = | 12+3−4−5 = |
| 7+5+3 = | 12−5−4 = | 8−5+4 = | 13+1−5+3 = |
| 8+5+2 = | 10−5−3 = | 13−4+5 = | 3+5+4−2 = |
| 6+3+5 = | 8−5−2 = | 10−3+4 = | 7−2+5−3 = |

## — 5. —

| | | | | |
|---|---|---|---|---|
| 9 + 4 = | 7 + 8 = | 11 − 6 = | 13 − 7 = | 15 − 8 = |
| 9 + 6 = | 7 + 7 = | 11 − 8 = | 13 − 9 = | 15 − 7 = |
| 8 + 7 = | 6 + 6 = | 12 − 9 = | 14 − 8 = | 15 − 9 = |
| 8 + 5 = | 6 + 9 = | 12 − 7 = | 14 − 6 = | 15 − 6 = |

## — 6. —

| | | | | |
|---|---|---|---|---|
| 2 × 4 = | 3 × 2 = | 5 × 3 = | 7 × 2 = | 15 = . × 3 |
| 3 × 5 = | 2 × 6 = | 2 × 7 = | 4 × 3 = | 12 = . × 4 |
| 4 × 2 = | 3 × 4 = | 5 × 2 = | 6 × 2 = | 10 = 2 × . |
| 2 × 5 = | 2 × 2 = | 3 × 3 = | 2 × 3 = | 15 = 5 × . |

## — 7. —

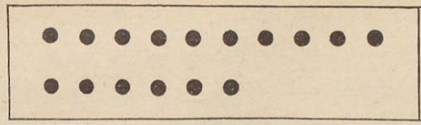
| | | | | |
|---|---|---|---|---|
| 2 in 8 = | 2 in 10 = | 2 in 12 = | 2 in 14 = | 2 in 15 = |
| 3 in 8 = | 3 in 10 = | 3 in 12 = | 3 in 14 = | 3 in 15 = |
| 4 in 8 = | 4 in 10 = | 4 in 12 = | 5 in 14 = | 4 in 15 = |
| 5 in 8 = | 5 in 10 = | 6 in 12 = | 7 in 14 = | 5 in 15 = |

## — 8. —

| | | | |
|---|---|---|---|
| 1/2 v. 12 = | 1/5 v. 10 = | 1/8 v. 8 = | 1/3 v. 3 = |
| 1/3 v. 6 = | 1/4 v. 8 = | 1/5 v. 15 = | 1/7 v. 14 = |
| 1/2 v. 4 = | 1/2 v. 8 = | 1/2 v. 10 = | 1/3 v. 9 = |
| 1/3 v. 12 = | 1/3 v. 15 = | 1/2 v. 14 = | 1/4 v. 12 = |

## — 9. —

| | | |
|---|---|---|
| 5 × 2 + 5 = | 3 × 5 − 4 = | 1/5 v. 15 + 5 = |
| 2 × 6 − 3 = | 4 × 3 + 3 = | 1/2 v. 14 − 3 = |
| 7 × 2 + 1 = | 2 × 7 − 5 = | 1/4 v. 12 + 9 = |

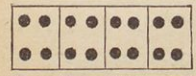


**16**

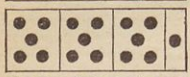
$16 \times 1 =$ | 1 in 16 =

$8 \times 2 =$ | 2 in 16 = | 1/8 v. 16 =

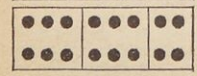
$5 \times 3 + 1 =$ | 3 in 16 =



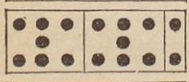
$4 \times 4 =$ | 4 in 16 = | 1/4 v. 16 =



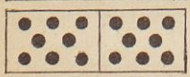
$3 \times 5 + 1 =$ | 5 in 16 =



$2 \times 6 + 4 =$ | 6 in 16 =

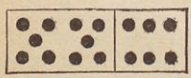


$2 \times 7 + 2 =$ | 7 in 16 =



$8 + 8 =$ | $16 - 8 =$ | $16 = 8 +$ .
$2 \times 8 =$ | 8 in 16 = | 1/2 v. 16 =

$9 + 7 =$ | $16 - 7 =$ | $16 = 9 +$ .
$7 + 9 =$ | $16 - 9 =$ | $16 = 7 +$ .
$1 \times 9 + 7 =$ | 9 in 16 =



$10 + 6 =$ | $16 - 6 =$ | $16 = 10 +$ .
$6 + 10 =$ | $16 - 10 =$ | $16 = 6 +$ .
$1 \times 10 + 6 =$ | 10 in 16 =

— 1. —

| | | | |
|---|---|---|---|
| $1 + 6 =$ | $6 + 6 =$ | $7 - 6 =$ | $12 - 6 =$ |
| $2 + 6 =$ | $7 + 6 =$ | $8 - 6 =$ | $13 - 6 =$ |
| $3 + 6 =$ | $8 + 6 =$ | $9 - 6 =$ | $14 - 6 =$ |
| $4 + 6 =$ | $9 + 6 =$ | $10 - 6 =$ | $15 - 6 =$ |
| $5 + 6 =$ | $10 + 6 =$ | $11 - 6 =$ | $16 - 6 =$ |

— 2. —

| | | | | |
|---|---|---|---|---|
| $4 + 6 =$ | $12 - 6 =$ | $12 + 1 =$ | $13 + 3 =$ | $12 + 4 =$ |
| $7 + 6 =$ | $15 - 6 =$ | $12 - 1 =$ | $13 - 3 =$ | $11 + 5 =$ |
| $8 + 6 =$ | $9 - 6 =$ | $14 + 2 =$ | $11 + 4 =$ | $14 - 3 =$ |
| $3 + 6 =$ | $13 - 6 =$ | $14 - 2 =$ | $15 - 4 =$ | $15 - 2 =$ |
| $5 + 6 =$ | $10 - 6 =$ | $16 - 2 =$ | $16 - 4 =$ | $16 - 3 =$ |

— 3. —

| | | | |
|---|---|---|---|
| 4+6+6 = | 15−6−6 = | 9+6−4 = | 4+4+4+4 = |
| 1+6+6 = | 12−6−6 = | 11+5−6 = | 15−6−6−2 = |
| 3+6+6 = | 9−6−2 = | 13+2−6 = | 9+6−4+5 = |
| 7+6+2 = | 11−6−4 = | 15−6+5 = | 3+6+6−4 = |
| 8+1+6 = | 16−3−6 = | 12−4+6 = | 12−6+3+6 = |
| 5+6+5 = | 13−6−5 = | 10−6+3 = | 16−6−2+5 = |

— 4. —

| | | | | |
|---|---|---|---|---|
| 9 + 5 = | 6 + 7 = | 9 + . = 10 | 6 + . = 10 | 11 − 5 = |
| 9 + 7 = | 6 + 9 = | 9 + . = 12 | 6 + . = 15 | 12 − 7 = |
| 8 + 6 = | 5 + 6 = | 9 + . = 16 | 5 + . = 10 | 13 − 9 = |
| 8 + 8 = | 5 + 8 = | 8 + . = 10 | 5 + . = 12 | 14 − 8 = |
| 8 + 4 = | 4 + 7 = | 8 + . = 16 | 4 + . = 10 | 15 − 6 = |
| 7 + 7 = | 4 + 9 = | 8 + . = 12 | 4 + . = 13 | 16 − 7 = |
| 7 + 5 = | 3 + 9 = | 7 + . = 10 | 3 + . = 11 | 16 − 9 = |
| 7 + 9 = | 3 + 8 = | 7 + . = 16 | 2 + . = 10 | 16 − 8 = |

— 5. —

| | | | | |
|---|---|---|---|---|
| 2 × 7 = | 8 × 2 = | 5 × 2 = | 2 × 8 = | 16 = 2 × . |
| 3 × 4 = | 2 × 3 = | 2 × 4 = | 3 × 3 = | 14 = 7 × . |
| 4 × 4 = | 2 × 5 = | 7 × 2 = | 4 × 2 = | 12 = . × 3 |
| 5 × 3 = | 4 × 3 = | 3 × 5 = | 2 × 6 = | 16 = . × 4 |

— 6. —

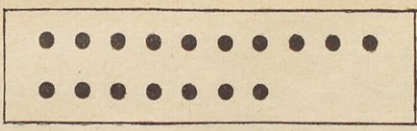
| | | | | |
|---|---|---|---|---|
| 2 in 14 = | 3 in 12 = | 4 in 16 = | 3 in 11 = | 2 in 7 = |
| 8 in 16 = | 2 in 6 = | 5 in 10 = | 5 in 13 = | 4 in 13 = |
| 5 in 10 = | 6 in 12 = | 3 in 15 = | 7 in 16 = | 6 in 15 = |
| 2 in 16 = | 3 in 9 = | 2 in 8 = | 9 in 14 = | 8 in 12 = |

— 7. —

| | | | |
|---|---|---|---|
| 1/8 v. 16 = | 1/2 v. 10 = | 1/2 v. 16 = | 1/2 v. 14 = |
| 1/2 v. 6 = | 1/4 v. 12 = | 1/3 v. 9 = | 1/3 v. 12 = |
| 1/5 v. 10 = | 1/5 v. 15 = | 1/4 v. 8 = | 1/4 v. 16 = |
| 1/2 v. 4 = | 1/7 v. 14 = | 1/2 v. 12 = | 1/3 v. 15 = |

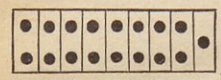
— 8. —

| | | |
|---|---|---|
| 4 × 3 + 3 = | 8 × 2 − 6 = | 1/8 v. 16 + 5 = |
| 7 × 2 − 5 = | 2 × 6 + 4 = | 1/3 v. 15 − 3 = |
| 3 × 5 + 1 = | 4 × 4 − 5 = | 1/4 v. 12 + 6 = |
| 2 × 8 − 4 = | 5 × 2 + 3 = | 1/2 v. 16 − 4 = |



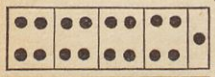
**17**

$17 \times 1 =$ | 1 in 17 =



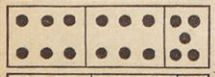
$8 \times 2 + 1 =$ | 2 in 17 =

$5 \times 3 + 2 =$ | 3 in 17 =

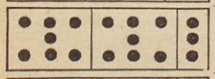


$4 \times 4 + 1 =$ | 4 in 17 =

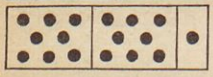
$3 \times 5 + 2 =$ | 5 in 17 =



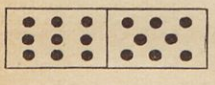
$2 \times 6 + 5 =$ | 6 in 17 =



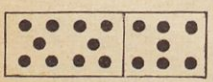
$2 \times 7 + 3 =$ | 7 in 17 =



$2 \times 8 + 1 =$ | 8 in 17 =



$9 + 8 =$ | $17 - 8 =$ | $17 = 9 + .$
$8 + 9 =$ | $17 - 9 =$ | $17 = 8 + .$
$1 \times 9 + 8 =$ | 9 in 17 =



$10 + 7 =$ | $17 - 7 =$ | $17 = 10 + .$
$7 + 10 =$ | $17 - 10 =$ | $17 = 7 + .$
$1 \times 10 + 7 =$ | 10 in 17 =

— 1. —

| | | | |
|---|---|---|---|
| $1 + 7 =$ | $6 + 7 =$ | $8 - 7 =$ | $13 - 7 =$ |
| $2 + 7 =$ | $7 + 7 =$ | $9 - 7 =$ | $14 - 7 =$ |
| $3 + 7 =$ | $8 + 7 =$ | $10 - 7 =$ | $15 - 7 =$ |
| $4 + 7 =$ | $9 + 7 =$ | $11 - 7 =$ | $16 - 7 =$ |
| $5 + 7 =$ | $10 + 7 =$ | $12 - 7 =$ | $17 - 7 =$ |

— 2. —

| | | | | |
|---|---|---|---|---|
| $9 + 7 =$ | $11 - 7 =$ | $5 + 3 =$ | $17 - 4 =$ | $12 + 5 =$ |
| $3 + 7 =$ | $16 - 7 =$ | $8 + 3 =$ | $13 - 4 =$ | $9 + 5 =$ |
| $7 + 7 =$ | $9 - 7 =$ | $11 + 3 =$ | $9 - 4 =$ | $17 - 6 =$ |
| $2 + 7 =$ | $12 - 7 =$ | $14 + 3 =$ | $5 - 4 =$ | $11 - 6 =$ |
| $6 + 7 =$ | $15 - 7 =$ | $10 + 7 =$ | $17 - 5 =$ | $17 - 7 =$ |

— 3. —

| | | | |
|---|---|---|---|
| 3+7+7 = | 17−7−7 = | 8+7−6 = | 2+4+7+4 = |
| 1+7+7 = | 15−7−7 = | 11+5−7 = | 17−3−5−7 = |
| 5+7+4 = | 16−7−6 = | 9+7−4 = | 8+7−2−6 = |
| 8+2+7 = | 12−4−7 = | 17−6+5 = | 12+5−7+4 = |
| 4+7+6 = | 14−7−5 = | 16−7+6 = | 16−7−6+7 = |
| 6+5+4 = | 13−3−7 = | 13−4+7 = | 15−7+5−6 = |

— 4. —

| | | | | |
|---|---|---|---|---|
| 9 + 5 = | 8 + 3 = | 7 + 7 = | 6 + 8 = | 5 + 6 = |
| 9 + 7 = | 8 + 6 = | 7 + 4 = | 6 + 5 = | 4 + 8 = |
| 9 + 4 = | 8 + 9 = | 7 + 8 = | 6 + 9 = | 4 + 7 = |
| 9 + 2 = | 8 + 4 = | 7 + 5 = | 6 + 7 = | 4 + 9 = |
| 9 + 8 = | 8 + 7 = | 7 + 9 = | 5 + 9 = | 3 + 9 = |
| 9 + 6 = | 8 + 5 = | 7 + 6 = | 5 + 7 = | 3 + 8 = |
| 9 + 3 = | 8 + 8 = | 6 + 6 = | 5 + 8 = | 2 + 9 = |

— 5. —

| | | | | |
|---|---|---|---|---|
| 3 × 5 = | 5 × 2 = | 7 × 2 = | 8 = . × 4 | 15 = 3 × . |
| 4 × 4 = | 2 × 8 = | 2 × 3 = | 12 = . × 3 | 10 = 5 × . |
| 2 × 7 = | 5 × 3 = | 4 × 2 = | 14 = . × 2 | 16 = 4 × . |
| 3 × 3 = | 2 × 6 = | 8 × 2 = | 16 = . × 8 | 12 = 3 × . |

— 6. —

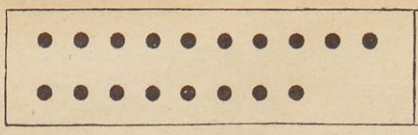
| | | | | |
|---|---|---|---|---|
| 2 in 16 = | 2 in 14 = | 3 in 12 = | 5 in 10 = | 3 in 17 = |
| 2 in 6 = | 2 in 4 = | 4 in 8 = | 6 in 12 = | 4 in 13 = |
| 2 in 12 = | 3 in 9 = | 4 in 16 = | 7 in 14 = | 6 in 10 = |
| 2 in 8 = | 3 in 15 = | 4 in 12 = | 8 in 16 = | 8 in 17 = |
| 2 in 10 = | 3 in 6 = | 5 in 15 = | 9 in 9 = | 9 in 16 = |

— 7. —

| | | | |
|---|---|---|---|
| ½ v. 8 = | ⅓ v. 12 = | ¼ v. 8 = | ⅑ v. 9 = |
| ⅓ v. 15 = | ⅛ v. 8 = | ⅐ v. 7 = | ⅓ v. 3 = |
| ⅓ v. 6 = | ½ v. 12 = | ½ v. 6 = | ⅕ v. 15 = |
| ½ v. 4 = | ⅕ v. 10 = | ⅓ v. 12 = | ½ v. 14 = |

— 8. —

| | | |
|---|---|---|
| 2 × 2 + 8 = | 2 × 7 − 3 = | ½ v. 6 + 4 = |
| 6 × 2 + 5 = | 4 × 4 − 5 = | ⅓ v. 9 + 7 = |
| 3 × 3 + 7 = | 8 × 2 − 7 = | ½ v. 14 − 7 = |
| 2 × 5 + 6 = | 4 × 3 − 6 = | ¼ v. 16 − 3 = |

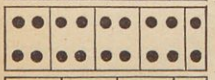


18

18 × 1 = | 1 in 18 =

9 × 2 = | 2 in 18 = | 1/9 v. 18 =

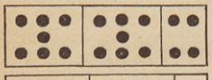
6 × 3 = | 3 in 18 = | 1/6 v. 18 =



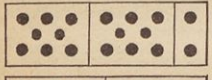
4 × 4 + 2 = | 4 in 18 =

3 × 5 + 3 = | 5 in 18 =

3 × 6 = | 6 in 18 = | 1/3 v. 18 =

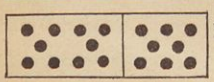


2 × 7 + 4 = | 7 in 18 =



2 × 8 + 2 = | 8 in 18 =

9 + 9 = | 18 − 9 = | 18 = 9 +.
2 × 9 = | 9 in 18 = | 1/2 v. 18 =



10 + 8 = | 18 − 8 = | 18 = 10 +.
8 + 10 = | 18 − 10 = | 18 = 8 +.
1 × 10 + 8 = | 10 in 18 =

— 1. —

| | | | |
|---|---|---|---|
| 1 + 8 = | 6 + 8 = | 9 − 8 = | 14 − 8 = |
| 2 + 8 = | 7 + 8 = | 10 − 8 = | 15 − 8 = |
| 3 + 8 = | 8 + 8 = | 11 − 8 = | 16 − 8 = |
| 4 + 8 = | 9 + 8 = | 12 − 8 = | 17 − 8 = |
| 5 + 8 = | 10 + 8 = | 13 − 8 = | 18 − 8 = |

— 2. —

| | | | | |
|---|---|---|---|---|
| 3 + 8 = | 10 − 8 = | 13 + 5 = | 12 − 6 = | 11 + 7 = |
| 8 + 8 = | 17 − 8 = | 13 − 5 = | 12 + 6 = | 11 − 7 = |
| 4 + 8 = | 9 − 8 = | 11 + 5 = | 9 − 6 = | 8 + 7 = |
| 5 + 8 = | 13 − 8 = | 11 − 5 = | 9 + 6 = | 8 − 7 = |
| 6 + 8 = | 16 − 8 = | 6 + 8 = | 15 − 8 = | 2 + 8 = |

— 3. —

| | | |
|---|---|---|
| 2 + 8 + 8 = | 5 + 4 + 8 + 1 = | 7 + 8 + 3 − 6 = |
| 5 + 8 + 4 = | 2 + 3 + 5 + 8 = | 9 + 2 + 5 − 8 = |
| 7 + 8 + 3 = | 1 + 8 + 4 + 3 = | 12 + 5 − 8 − 4 = |
| 16 − 8 − 6 = | 17 − 8 − 2 − 5 = | 8 + 8 − 7 + 3 = |
| 18 − 8 − 5 = | 18 − 4 − 3 − 8 = | 16 − 8 + 6 − 8 = |
| 15 − 4 − 8 = | 16 − 5 − 8 − 2 = | 18 − 7 − 8 + 6 = |

— 4. —

| | | | | |
|---|---|---|---|---|
| 11 − 2 = | 12 − 3 = | 13 − 6 = | 14 − 6 = | 15 − 6 = |
| 11 − 5 = | 12 − 7 = | 13 − 4 = | 14 − 8 = | 16 − 8 = |
| 11 − 8 = | 12 − 5 = | 13 − 7 = | 14 − 5 = | 16 − 7 = |
| 11 − 4 = | 12 − 9 = | 13 − 8 = | 14 − 7 = | 16 − 9 = |
| 11 − 7 = | 12 − 4 = | 13 − 5 = | 15 − 9 = | 17 − 9 = |
| 11 − 9 = | 12 − 8 = | 13 − 9 = | 15 − 8 = | 17 − 8 = |
| 11 − 6 = | 12 − 6 = | 13 − 3 = | 15 − 7 = | 18 − 6 = |

— 5. —

| | | | | |
|---|---|---|---|---|
| 3 × 4 = | 2 × 9 = | 6 × 3 = | 4 × 3 = | 14 = . × 7 |
| 2 × 7 = | 3 × 5 = | 7 × 2 = | 9 × 2 = | 15 = . × 3 |
| 3 × 6 = | 2 × 8 = | 5 × 3 = | 2 × 6 = | 16 = 2 × . |
| 4 × 4 = | 3 × 3 = | 8 × 2 = | 5 × 2 = | 18 = 6 × . |

— 6. —

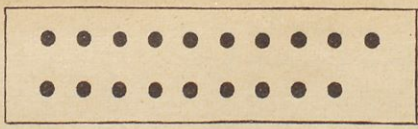
| | | | | |
|---|---|---|---|---|
| 2 in 12 = | 2 in 14 = | 2 in 16 = | 2 in 18 = | 3 in 10 = |
| 3 in 12 = | 7 in 14 = | 4 in 16 = | 3 in 18 = | 4 in 14 = |
| 4 in 12 = | 3 in 15 = | 8 in 16 = | 6 in 18 = | 5 in 13 = |
| 6 in 12 = | 5 in 15 = | 5 in 10 = | 9 in 18 = | 6 in 16 = |

— 7. —

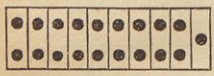
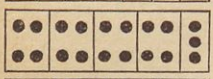
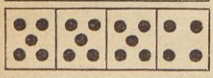
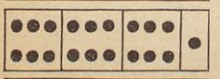
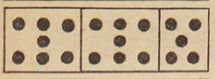
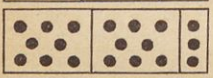
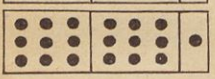
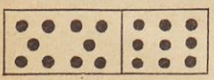
| | | | |
|---|---|---|---|
| 1/6 v. 12 = | 1/8 v. 16 = | 1/4 v. 16 = | 1/5 v. 10 = |
| 1/2 v. 10 = | 1/5 v. 15 = | 1/3 v. 18 = | 1/2 v. 12 = |
| 1/4 v. 8 = | 1/7 v. 14 = | 1/2 v. 14 = | 1/9 v. 18 = |
| 1/3 v. 6 = | 1/6 v. 18 = | 1/3 v. 12 = | 1/4 v. 12 = |

— 8. —

| | | |
|---|---|---|
| 5 × 2 + 8 = | 4 × 3 + 5 = | 1/2 v. 10 + 8 = |
| 4 × 4 − 7 = | 3 × 6 − 6 = | 1/3 v. 12 − 2 = |
| 2 × 4 + 6 = | 2 × 7 + 4 = | 1/4 v. 16 + 7 = |
| 3 × 3 − 5 = | 9 × 2 − 8 = | 1/2 v. 18 − 6 = |



**19**

| | | |
|---|---|---|
| | $19 \times 1 =$ | 1 in 19 = |
|  | $9 \times 2 + 1 =$ | 2 in 19 = |
|  | $6 \times 3 + 1 =$ | 3 in 19 = |
|  | $4 \times 4 + 3 =$ | 4 in 19 = |
|  | $3 \times 5 + 4 =$ | 5 in 19 = |
|  | $3 \times 6 + 1 =$ | 6 in 19 = |
|  | $2 \times 7 + 5 =$ | 7 in 19 = |
|  | $2 \times 8 + 3 =$ | 8 in 19 = |
|  | $2 \times 9 + 1 =$ | 9 in 19 = |
|  | $10 + 9 =$ \| $19 - 9 =$ \| $19 = 10 +$ . | |
| | $9 + 10 =$ \| $19 - 10 =$ \| $19 = 9 +$ . | |
| | $1 \times 10 + 9 =$ \| 10 in 19 = | |

— 1. —

| | | | |
|---|---|---|---|
| $1 + 9 =$ | $6 + 9 =$ | $10 - 9 =$ | $15 - 9 =$ |
| $2 + 9 =$ | $7 + 9 =$ | $11 - 9 =$ | $16 - 9 =$ |
| $3 + 9 =$ | $8 + 9 =$ | $12 - 9 =$ | $17 - 9 =$ |
| $4 + 9 =$ | $9 + 9 =$ | $13 - 9 =$ | $18 - 9 =$ |
| $5 + 9 =$ | $10 + 9 =$ | $14 - 9 =$ | $19 - 9 =$ |

— 2. —

| | | | | |
|---|---|---|---|---|
| $3 + 9 =$ | $7 + 9 =$ | $15 - 9 =$ | $11 + 8 =$ | $6 + 7 =$ |
| $8 + 9 =$ | $4 + 9 =$ | $11 - 9 =$ | $5 + 8 =$ | $12 + 7 =$ |
| $6 + 9 =$ | $1 + 9 =$ | $18 - 9 =$ | $9 + 8 =$ | $16 - 7 =$ |
| $2 + 9 =$ | $13 - 9 =$ | $12 - 9 =$ | $13 - 8 =$ | $11 - 7 =$ |
| $5 + 9 =$ | $17 - 9 =$ | $16 - 9 =$ | $16 - 8 =$ | $19 - 7 =$ |

— 3. —

| | | | |
|---|---|---|---|
| 1 + 9 + 9 = | 19 − 9 − 9 = | 9 + 9 − 5 = | 17 − 9 + 7 = |
| 3 + 9 + 7 = | 18 − 9 − 6 = | 7 + 9 − 8 = | 18 − 9 + 8 = |
| 8 + 2 + 9 = | 17 − 4 − 9 = | 8 + 9 − 7 = | 15 − 7 + 9 = |
| 4 + 9 + 5 = | 16 − 5 − 9 = | 18 + 1 − 6 = | 13 − 6 + 9 = |
| 7 + 9 + 2 = | 15 − 9 − 3 = | 12 + 6 − 9 = | 19 − 8 + 5 = |
| 5 + 4 + 9 = | 14 − 1 − 9 = | 15 + 2 − 8 = | 16 − 9 + 4 = |

— 4. —

| | | |
|---|---|---|
| 6 + 3 + 9 = | 2 + 3 + 9 + 4 = | 17 − 9 + 6 − 8 = |
| 8 + 5 + 6 = | 5 + 6 + 4 + 4 = | 15 − 8 − 3 + 9 = |
| 3 + 4 + 7 = | 4 + 2 + 3 + 7 = | 14 − 7 + 5 + 4 = |
| 18 − 7 − 8 = | 18 − 4 − 3 − 9 = | 6 + 9 − 8 + 6 = |
| 19 − 9 − 7 = | 19 − 7 − 2 − 3 = | 8 + 7 − 6 − 9 = |
| 9 + 9 − 8 = | 6 + 7 − 5 + 9 = | 16 − 9 + 6 − 5 = |
| 12 + 5 − 9 = | 8 + 6 − 9 − 3 = | 12 − 4 + 7 + 3 = |
| 17 − 6 + 8 = | 16 − 8 + 9 − 5 = | 19 − 8 − 4 + 9 = |

— 5. —

| | | | | |
|---|---|---|---|---|
| 2 × 2 = | 6 × 3 = | 2 × 7 = | 8 × 2 = | 6 = 2 × . |
| 3 × 3 = | 7 × 2 = | 3 × 6 = | 2 × 9 = | 15 = 3 × . |
| 4 × 4 = | 5 × 3 = | 4 × 3 = | 6 × 2 = | 12 = . × 4 |
| 5 × 2 = | 9 × 2 = | 2 × 5 = | 2 × 4 = | 16 = . × 8 |

— 6. —

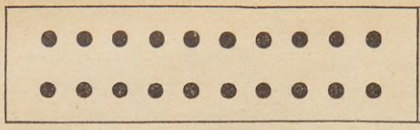
| | | | | |
|---|---|---|---|---|
| 2 in 16 = | 3 in 12 = | 4 in 16 = | 5 in 15 = | 7 in 10 = |
| 2 in 10 = | 3 in 9 = | 4 in 8 = | 5 in 19 = | 8 in 16 = |
| 2 in 4 = | 3 in 18 = | 4 in 12 = | 6 in 18 = | 8 in 19 = |
| 2 in 19 = | 3 in 19 = | 4 in 19 = | 6 in 19 = | 9 in 18 = |

— 7. —

| | | | |
|---|---|---|---|
| 1/5 v. 15 = | 1/2 v. 8 = | 1/9 v. 18 = | 1/2 v. 10 = |
| 1/4 v. 16 = | 1/6 v. 12 = | 1/3 v. 15 = | 1/4 v. 12 = |
| 1/3 v. 9 = | 1/2 v. 18 = | 1/7 v. 14 = | 1/3 v. 18 = |
| 1/2 v. 4 = | 1/8 v. 16 = | 1/6 v. 18 = | 1/2 v. 14 = |

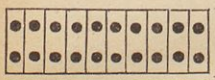
— 8. —

| | | |
|---|---|---|
| 2 × 4 + 9 = | 9 × 2 − 7 = | 1/8 v. 16 + 8 = |
| 4 × 3 + 7 = | 5 × 3 − 8 = | 1/5 v. 15 + 9 = |
| 2 × 7 + 3 = | 3 × 6 − 5 = | 1/2 v. 18 − 7 = |
| 3 × 3 + 8 = | 4 × 4 − 9 = | 1/4 v. 16 − 2 = |

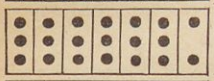


**20**

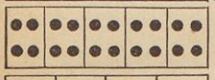
$20 \times 1 =$ | 1 in 20 =



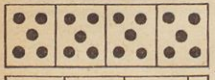
$10 \times 2 =$ | 2 in 20 = | 1/10 v. 20 =



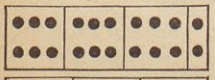
$6 \times 3 + 2 =$ | 3 in 20 =



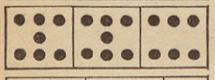
$5 \times 4 =$ | 4 in 20 = | 1/5 v. 20 =



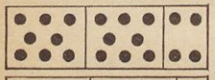
$4 \times 5 =$ | 5 in 20 = | 1/4 v. 20 =



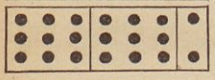
$3 \times 6 + 2 =$ | 6 in 20 =



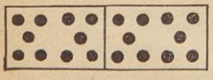
$2 \times 7 + 6 =$ | 7 in 20 =



$2 \times 8 + 4 =$ | 8 in 20 =



$2 \times 9 + 2 =$ | 9 in 20 =



$10 + 10 =$ | $20 - 10 =$ | $20 = 10 + .$
$2 \times 10 =$ | 10 in 20 = | 1/2 v. 20 =

— 1. —

| | | | |
|---|---|---|---|
| **1 + 10 =** | **6 + 10 =** | **11 − 10 =** | **16 − 10 =** |
| **2 + 10 =** | **7 + 10 =** | **12 − 10 =** | **17 − 10 =** |
| **3 + 10 =** | **8 + 10 =** | **13 − 10 =** | **18 − 10 =** |
| **4 + 10 =** | **9 + 10 =** | **14 − 10 =** | **19 − 10 =** |
| **5 + 10 =** | **10 + 10 =** | **15 − 10 =** | **20 − 10 =** |

— 2. —

| | | | | |
|---|---|---|---|---|
| 2 + 1 = | 4 + 6 = | 10 + 10 = | 6 + 3 = | 4 + 7 = |
| 3 − 2 = | 10 − 3 = | 20 − 7 = | 9 − 4 = | 17 − 8 = |
| 1 + 4 = | 7 + 8 = | 13 + 2 = | 5 + 5 = | 3 + 9 = |
| 5 − 1 = | 15 − 5 = | 15 − 9 = | 10 − 6 = | 12 − 10 = |

## — 3. —

| | | | | |
|---|---|---|---|---|
| 10 + 1 = | 12 + 3 = | 12 + 6 = | 15 − 1 = | 19 − 4 = |
| 13 + 1 = | 15 + 3 = | 14 + 6 = | 19 − 1 = | 16 − 4 = |
| 18 + 1 = | 13 + 3 = | 11 + 7 = | 12 − 2 = | 17 − 5 = |
| 11 + 1 = | 16 + 3 = | 13 + 7 = | 17 − 2 = | 19 − 5 = |
| 14 + 2 = | 11 + 4 = | 11 + 8 = | 14 − 2 = | 17 − 6 = |
| 17 + 2 = | 14 + 4 = | 12 + 8 = | 13 − 3 = | 20 − 6 = |
| 16 + 2 = | 12 + 4 = | 10 + 8 = | 19 − 3 = | 18 − 7 = |
| 13 + 2 = | 11 + 5 = | 10 + 9 = | 16 − 3 = | 20 − 8 = |
| 11 + 2 = | 15 + 5 = | 11 + 9 = | 15 − 4 = | 19 − 9 = |

## — 4. —

| | | |
|---|---|---|
| 6 + 7 + 5 = | 19 − 7 − 8 = | 7 + 10 − 9 = |
| 4 + 8 + 7 = | 17 − 6 − 6 = | 18 − 10 + 7 = |
| 9 + 5 + 6 = | 20 − 5 + 4 = | 19 − 5 − 10 = |
| 3 + 8 + 9 = | 16 − 9 + 7 = | 16 − 9 + 10 = |
| 7 + 9 + 4 = | 16 − 8 + 6 = | 8 + 8 − 9 = |
| 5 + 6 + 7 = | 9 + 9 − 7 = | 15 + 4 − 10 = |
| 4 + 7 + 7 = | 5 + 8 − 6 = | 17 − 8 − 7 = |
| 8 + 6 + 4 = | 7 + 9 − 8 = | 9 + 10 − 8 = |

## — 5. —

| | | |
|---|---|---|
| 12 + 2 + 2 + 2 = | 2 + 5 + 5 + 5 = | 4 + 7 + 7 + 2 = |
| 15 − 2 − 2 − 2 = | 5 + 5 + 5 + 5 = | 1 + 7 + 7 + 4 = |
| 8 + 3 + 3 + 3 = | 19 − 5 − 5 − 5 = | 18 − 7 − 7 − 3 = |
| 13 − 3 − 3 − 3 = | 16 − 5 − 5 − 5 = | 19 − 7 − 7 − 5 = |
| 4 + 4 + 4 + 4 = | 1 + 6 + 6 + 6 = | 3 + 8 + 8 + 1 = |
| 1 + 4 + 4 + 4 = | 2 + 6 + 6 + 6 = | 20 − 8 − 8 − 2 = |
| 18 − 4 − 4 − 4 = | 19 − 6 − 6 − 6 = | 1 + 9 + 9 + 1 = |
| 15 − 4 − 4 − 4 = | 17 − 6 − 6 − 3 = | 17 − 9 − 5 − 1 = |

## — 6. —

| | | |
|---|---|---|
| 4 + 3 + 10 + 2 = | 16 − 4 − 5 + 10 = | 6 + 4 + 7 + 2 = |
| 19 − 7 − 4 − 5 = | 7 + 9 − 4 + 6 = | 5 + 2 + 8 + 5 = |
| 17 − 5 + 3 − 7 = | 13 + 7 − 9 − 8 = | 20 − 5 − 7 − 6 = |
| 14 − 2 − 6 + 9 = | 15 − 6 + 10 − 7 = | 18 − 3 − 6 − 9 = |
| 6 + 9 − 7 + 8 = | 20 − 8 + 6 − 5 = | 8 + 9 − 6 + 8 = |
| 9 + 9 − 5 − 6 = | 6 + 8 − 9 + 6 = | 19 − 9 + 8 − 6 = |
| 19 − 5 + 3 − 9 = | 17 − 5 − 10 + 9 = | 20 − 8 − 5 + 9 = |
| 18 − 9 + 8 − 4 = | 12 + 8 − 9 − 9 = | 9 + 7 − 4 + 8 = |

— 7. —

| | | | | |
|---|---|---|---|---|
| 2 × 3 = | 1 × 2 = | 3 × 3 = | 6 = . × 3 | 4 = 2 × . |
| 2 × 2 = | 6 × 2 = | 3 × 5 = | 8 = . × 2 | 10 = 2 × . |
| 2 × 5 = | 3 × 2 = | 3 × 4 = | 8 = . × 4 | 10 = 5 × . |
| 2 × 1 = | 9 × 2 = | 3 × 6 = | 9 = . × 3 | 12 = 3 × . |
| 2 × 8 = | 5 × 2 = | 4 × 4 = | 15 = . × 3 | 12 = 6 × . |
| 2 × 6 = | 2 × 2 = | 4 × 5 = | 15 = . × 5 | 14 = 7 × . |
| 2 × 9 = | 10 × 2 = | 4 × 3 = | 20 = . × 2 | 16 = 4 × . |
| 2 × 4 = | 4 × 2 = | 5 × 3 = | 20 = . × 4 | 16 = 8 × . |
| 2 × 7 = | 8 × 2 = | 5 × 4 = | 20 = . × 5 | 18 = 3 × . |
| 2 × 10 = | 7 × 2 = | 6 × 3 = | 20 = . × 10 | 18 = 9 × . |

— 8. —

| | | | |
|---|---|---|---|
| 3 × 4 − 9 = | 10 × 2 − 6 = | 4 × 5 − 8 = | 2 × 4 + 7 = |
| 5 × 2 + 8 = | 3 × 3 + 9 = | 2 × 10 − 9 = | 8 × 2 − 6 = |
| 2 × 6 − 5 = | 2 × 8 − 10 = | 3 × 3 + 5 = | 5 × 4 − 5 = |
| 4 × 4 + 4 = | 3 × 6 − 7 = | 7 × 2 + 4 = | 6 × 3 + 2 = |

— 9. —

| | | | | |
|---|---|---|---|---|
| 2 in 6 = | 2 in 20 = | 3 in 18 = | 5 in 20 = | 8 in 8 = |
| 2 in 10 = | 2 in 16 = | 3 in 9 = | 5 in 15 = | 8 in 16 = |
| 2 in 18 = | 2 in 8 = | 4 in 12 = | 5 in 10 = | 9 in 18 = |
| 2 in 4 = | 3 in 15 = | 4 in 20 = | 6 in 18 = | 9 in 9 = |
| 2 in 14 = | 3 in 6 = | 4 in 16 = | 6 in 12 = | 10 in 10 = |
| 2 in 12 = | 3 in 12 = | 4 in 8 = | 7 in 14 = | 10 in 20 = |

— 10. —

| | | | |
|---|---|---|---|
| 1/2 v. 4 = | 1/2 v. 8 = | 1/3 v. 15 = | 1/4 v. 12 = |
| 1/2 v. 12 = | 1/2 v. 14 = | 1/3 v. 6 = | 1/5 v. 10 = |
| 1/2 v. 18 = | 1/2 v. 20 = | 1/4 v. 20 = | 1/5 v. 15 = |
| 1/2 v. 6 = | 1/3 v. 12 = | 1/4 v. 4 = | 1/5 v. 20 = |
| 1/2 v. 10 = | 1/3 v. 18 = | 1/4 v. 16 = | 1/6 v. 12 = |
| 1/2 v. 16 = | 1/3 v. 9 = | 1/4 v. 8 = | 1/6 v. 18 = |

— 11. —

| | | |
|---|---|---|
| 1/4 v. 8 + 10 = | 1/8 v. 16 + 9 = | 1/9 v. 18 + 7 = |
| 1/2 v. 18 − 8 = | 1/2 v. 20 − 6 = | 1/4 v. 20 − 3 = |
| 1/5 v. 10 + 7 = | 1/7 v. 14 + 8 = | 1/6 v. 18 + 10 = |
| 1/3 v. 15 − 3 = | 1/5 v. 15 − 2 = | 1/2 v. 16 − 5 = |