

PLACE VALUE & SUBTRACTION

Algorithm Lab • Tens, Ones, and Exchange

Objective: Subtract by place value, exchanging units without changing the quantity.

DO THIS Show each number by place value. Exchange a unit when you need to, then subtract.

EXCHANGE One ten is ten ones — the quantity does not change.

EXAMPLE

T	O
5	2

1 ten becomes 10 ones

$$\begin{array}{r} 52 \\ - 28 \\ \hline 24 \end{array}$$

$52 = 40 + 12$.

Exchange one ten for ten ones, then subtract.

BUILD & SUBTRACT Show the number, then subtract by place value.

1

T	O
3	8

$$\begin{array}{r} 38 \\ - 33 \\ \hline \end{array}$$

2

T	O
7	2

$$\begin{array}{r} 72 \\ - 67 \\ \hline \end{array}$$

3

T	O
5	1

$$\begin{array}{r} 51 \\ - 40 \\ \hline \end{array}$$

4

T	O
6	8

$$\begin{array}{r} 68 \\ - 57 \\ \hline \end{array}$$

INDEPENDENT PRACTICE Subtract. Keep your columns aligned.

1

$$\begin{array}{r} 39 \\ - 10 \\ \hline \end{array}$$

2

$$\begin{array}{r} 87 \\ - 51 \\ \hline \end{array}$$

3

$$\begin{array}{r} 76 \\ - 34 \\ \hline \end{array}$$

4

$$\begin{array}{r} 43 \\ - 29 \\ \hline \end{array}$$

5

$$\begin{array}{r} 35 \\ - 30 \\ \hline \end{array}$$

6

$$\begin{array}{r} 30 \\ - 14 \\ \hline \end{array}$$

7

$$\begin{array}{r} 57 \\ - 35 \\ \hline \end{array}$$

8

$$\begin{array}{r} 50 \\ - 18 \\ \hline \end{array}$$

PROVE IT Check with addition.

1 $14 + \square = 33$

2 $46 + \square = 99$

3 $77 + \square = 94$

To subtract I: exchanged a unit kept columns aligned checked with addition

TEACHER EDITION

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Exchange one ten for ten ones, then subtract.

BUILD & SUBTRACT Show the number, then subtract by place value.

1

T	O
3	8

$$\begin{array}{r} 38 \\ - 33 \\ \hline 5 \end{array}$$

2

T	O
7	2

$$\begin{array}{r} 72 \\ - 67 \\ \hline 5 \end{array}$$

3

T	O
5	1

$$\begin{array}{r} 51 \\ - 40 \\ \hline 11 \end{array}$$

4

T	O
6	8

$$\begin{array}{r} 68 \\ - 57 \\ \hline 11 \end{array}$$

INDEPENDENT PRACTICE Subtract. Keep your columns aligned.

1

$$\begin{array}{r} 39 \\ - 10 \\ \hline 29 \end{array}$$

2

$$\begin{array}{r} 87 \\ - 51 \\ \hline 36 \end{array}$$

3

$$\begin{array}{r} 76 \\ - 34 \\ \hline 42 \end{array}$$

4

$$\begin{array}{r} 43 \\ - 29 \\ \hline 14 \end{array}$$

5

$$\begin{array}{r} 35 \\ - 30 \\ \hline 5 \end{array}$$

6

$$\begin{array}{r} 30 \\ - 14 \\ \hline 16 \end{array}$$

7

$$\begin{array}{r} 57 \\ - 35 \\ \hline 22 \end{array}$$

8

$$\begin{array}{r} 50 \\ - 18 \\ \hline 32 \end{array}$$

PROVE IT Check with addition.

1 $14 + 19 = 33$

2 $46 + 53 = 99$

3 $77 + 17 = 94$

TEACHER NOTES Answer key & guidance

Answers: aligned vertical differences
Common error: Subtracting the smaller digit from the larger in each column

Strategy: Rename one unit as ten of the next-smaller unit
Prompt: "Do you have enough ones, or must you exchange a ten?"

To subtract I: exchanged a unit kept columns aligned checked with addition