

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
5	0

$$\begin{array}{r} 50 \\ - 48 \\ \hline \end{array}$$

2

T	O
4	5

$$\begin{array}{r} 45 \\ - 44 \\ \hline \end{array}$$

3

T	O
3	0

$$\begin{array}{r} 30 \\ - 22 \\ \hline \end{array}$$

4

T	O
4	6

$$\begin{array}{r} 46 \\ - 36 \\ \hline \end{array}$$

INDEPENDENT PRACTICE Subtract. Keep your columns aligned.

1

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

2

$$\begin{array}{r} 47 \\ - 38 \\ \hline \end{array}$$

3

$$\begin{array}{r} 78 \\ - 69 \\ \hline \end{array}$$

4

$$\begin{array}{r} 75 \\ - 10 \\ \hline \end{array}$$

5

$$\begin{array}{r} 37 \\ - 34 \\ \hline \end{array}$$

6

$$\begin{array}{r} 60 \\ - 10 \\ \hline \end{array}$$

PROVE IT Check with addition.

1 $21 + \square = 59$

2 $10 + \square = 16$

3 $19 + \square = 21$

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



TEACHER EDITION

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

1

T	O
5	0

$$\begin{array}{r} 50 \\ - 48 \\ \hline 2 \end{array}$$

2

T	O
4	5

$$\begin{array}{r} 45 \\ - 44 \\ \hline 1 \end{array}$$

3

T	O
3	0

$$\begin{array}{r} 30 \\ - 22 \\ \hline 8 \end{array}$$

4

T	O
4	6

$$\begin{array}{r} 46 \\ - 36 \\ \hline 10 \end{array}$$

INDEPENDENT PRACTICE Subtract. Keep your columns aligned.

1

$$\begin{array}{r} 28 \\ - 24 \\ \hline 4 \end{array}$$

2

$$\begin{array}{r} 47 \\ - 38 \\ \hline 9 \end{array}$$

3

$$\begin{array}{r} 78 \\ - 69 \\ \hline 9 \end{array}$$

4

$$\begin{array}{r} 75 \\ - 10 \\ \hline 65 \end{array}$$

5

$$\begin{array}{r} 37 \\ - 34 \\ \hline 3 \end{array}$$

6

$$\begin{array}{r} 60 \\ - 10 \\ \hline 50 \end{array}$$

PROVE IT Check with addition.

1 $21 + \underline{38} = 59$

2 $10 + \underline{6} = 16$

3 $19 + \underline{2} = 21$

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

