

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
8	3

$$\begin{array}{r} 83 \\ - 58 \\ \hline \end{array}$$

2

T	O
5	5

$$\begin{array}{r} 55 \\ - 11 \\ \hline \end{array}$$

3

T	O
4	8

$$\begin{array}{r} 48 \\ - 30 \\ \hline \end{array}$$

4

T	O
9	6

$$\begin{array}{r} 96 \\ - 32 \\ \hline \end{array}$$

INDEPENDENT PRACTICE Subtract. Keep your columns aligned.

1

$$\begin{array}{r} 43 \\ - 27 \\ \hline \end{array}$$

2

$$\begin{array}{r} 74 \\ - 12 \\ \hline \end{array}$$

3

$$\begin{array}{r} 68 \\ - 54 \\ \hline \end{array}$$

4

$$\begin{array}{r} 39 \\ - 33 \\ \hline \end{array}$$

5

$$\begin{array}{r} 88 \\ - 84 \\ \hline \end{array}$$

6

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

PROVE IT Check with addition.

1 $73 + \square = 77$

2 $68 + \square = 94$

3 $40 + \square = 73$

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



TEACHER EDITION

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5	2

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

1 ten becomes 10 ones

$52 = 40 + 12.$

Exchange one ten for ten ones, then subtract.

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

1

T	O
8	3

$$\begin{array}{r} 83 \\ - 58 \\ \hline 25 \end{array}$$

2

T	O
5	5

$$\begin{array}{r} 55 \\ - 11 \\ \hline 44 \end{array}$$

3

T	O
4	8

$$\begin{array}{r} 48 \\ - 30 \\ \hline 18 \end{array}$$

4

T	O
9	6

$$\begin{array}{r} 96 \\ - 32 \\ \hline 64 \end{array}$$

INDEPENDENT PRACTICE Subtract. Keep your columns aligned.

1

$$\begin{array}{r} 43 \\ - 27 \\ \hline 16 \end{array}$$

2

$$\begin{array}{r} 74 \\ - 12 \\ \hline 62 \end{array}$$

3

$$\begin{array}{r} 68 \\ - 54 \\ \hline 14 \end{array}$$

4

$$\begin{array}{r} 39 \\ - 33 \\ \hline 6 \end{array}$$

5

$$\begin{array}{r} 88 \\ - 84 \\ \hline 4 \end{array}$$

6

$$\begin{array}{r} 16 \\ - 14 \\ \hline 2 \end{array}$$

PROVE IT Check with addition.

1 $73 + \underline{4} = 77$

2 $68 + \underline{26} = 94$

3 $40 + \underline{33} = 73$

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

