

## The Distributive Property Pattern

DPA 1

**Instructions:** Each of these equations shows the basic pattern of the distributive property. Fill in the missing numbers to complete the pattern and make the equation true.

1  $8 \times (3 + 10) = \boxed{8} \times 3 + \boxed{8} \times 10$

2  $3 \times (7 + 9) = 3 \times \boxed{\phantom{00}} + 3 \times \boxed{\phantom{00}}$

3  $5 \times (12 - 6) = 5 \times \boxed{\phantom{00}} - \boxed{\phantom{00}} \times 6$

4  $7 \times (4 + 8) = \boxed{\phantom{00}} \times 4 + 7 \times \boxed{\phantom{00}}$

5  $11 \times (3 - 2) = 11 \times 3 - 11 \times \boxed{\phantom{00}}$

6  $\boxed{\phantom{00}} \times (5 - \boxed{\phantom{00}}) = 6 \times 5 - 6 \times 3$

7  $\boxed{\phantom{00}} \times (\boxed{\phantom{00}} + 8) = 8 \times 3 + 8 \times 8$

8  $5 \times (7 - 4) = 5 \times \boxed{\phantom{00}} - 5 \times 4$

9  $\boxed{\phantom{00}} \times (10 + 12) = 9 \times 10 + 9 \times 12$

10  $10 \times (\boxed{\phantom{00}} + \boxed{\phantom{00}}) = 10 \times 2 + 10 \times 7$

11  $2 \times (\boxed{\phantom{00}} - 13) = 2 \times 15 - 2 \times 13$

12  $4 \times (9 + 5) = \boxed{\phantom{00}} \times 9 + \boxed{\phantom{00}} \times 5$


## Simplifying Expressions Two Different Ways

DPA 2

**Instructions:** Simplify each expression two different ways. In the first way, simplify what is inside the group first. In the second way, use the distributive property to eliminate the group. You should get the same answer both ways. Be sure to show your work!

### Way 1: Group First

### Way 2: The Distributive Property

<b>1</b>	$5 \times (8 + 2)$ $5 \times 10$ $50$	$5 \times (8 + 2)$ $5 \times 8 + 5 \times 2$ $40 + 10$ $50$
	 <p>same answer both ways</p>	

<b>2</b>	$3 \times (7 + 5)$	$3 \times (7 + 5)$
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<b>3</b>	$10 \times (12 - 4)$	$10 \times (12 - 4)$
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<b>4</b>	$6 \times (2 + 5 + 1)$	$6 \times (2 + 5 + 1)$
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<b>5</b>	$4 \times (10 - 3 + 2)$	$4 \times (10 - 3 + 2)$
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## Simplifying Expressions with the Distributive Property

DPA 3

**Instructions:** Use the Distributive Property to simplify each of these expressions. Be sure to show all your work.

1  $3 \times (7 + 4)$   
 $3 \times 7 + 3 \times 4$   
 $21 + 12$   
 $33$

2  $10 \times (3 + 5)$

3  $2 \times (7 + 5)$

4  $7 \times (5 - 1)$

5  $3 \times (12 + 10)$

6  $4 \times (9 + 5)$

7  $5 \times (6 + 5 - 1)$

8  $6 \times (10 - 6 - 4)$

9  $12 \times (10 - 5 + 2)$

10  $8 \times (2 + 3 + 4)$

## Using the Distributive Property to Multiply - Set 1

DPA 4

**Instructions:** Use the Distributive Property to rearrange these multiplication problems so they are easier to do mentally. Then simplify them to get a final answer.

1  $7 \times 32$   
 $7 \times (30 + 2)$   
 $7 \times 30 + 7 \times 2$   
 $210 + 14$   
 $224$

2  $4 \times 26$

3  $5 \times 132$

4  $8 \times 54$

5  $9 \times 41$

6  $2 \times 734$

7  $6 \times 65$

8  $4 \times 456$

## Using the Distributive Property to Multiply - Set 2

DPA 5

**Instructions:** Use the Distributive Property to rearrange these multiplication problems so they are easier to do mentally. Then simplify them to get a final answer.

1  $9 \times 43$

$$9 \times (40 + 3)$$

$$9 \times 40 + 9 \times 3$$

$$360 + 27$$

$$387$$

2  $6 \times 58$

3  $3 \times 97$

4  $5 \times 28$

5  $7 \times 84$

6  $3 \times 615$

7  $2 \times 843$

8  $4 \times 722$