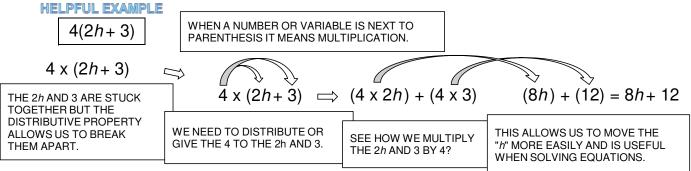# THE DISTRIBUTIVE PROPERTY
OF MULTIPLICATION

ANSWERS

THE DISTRIBUTIVE PROPERTY OF MULTIPLICATION ALLOWS US TO DISTRIBUTE OR GIVE MULTIPLICATION TO ADDITION OR SUBTRACTION. IT MAKES NUMBERS EASIER TO WORK WITH AND ALLOWS US TO BREAK VARIABLES AND NUMBERS INTO PARTS.
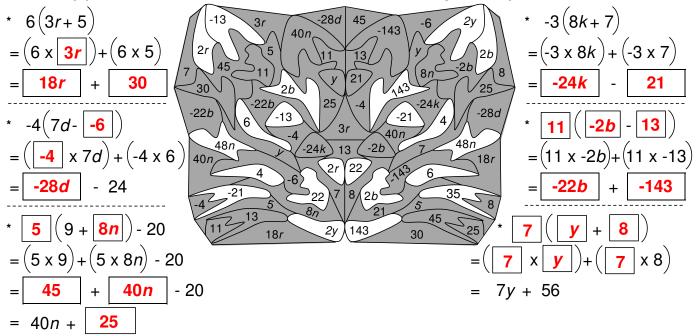
HELPFUL EXAMPLE

$4(2h + 3)$

WHEN A NUMBER OR VARIABLE IS NEXT TO PARENTHESIS IT MEANS MULTIPLICATION.

$4 \times (2h + 3)$

THE $2h$ AND 3 ARE STUCK TOGETHER BUT THE DISTRIBUTIVE PROPERTY ALLOWS US TO BREAK THEM APART.

$4 \times (2h + 3) \implies (4 \times 2h) + (4 \times 3) \qquad (8h) + (12) = 8h + 12$

WE NEED TO DISTRIBUTE OR GIVE THE 4 TO THE 2h AND 3.

SEE HOW WE MULTIPLY THE $2h$ AND 3 BY 4?

THIS ALLOWS US TO MOVE THE "h" MORE EASILY AND IS USEFUL WHEN SOLVING EQUATIONS.

Now you turn. Use the Distributive Property to simplify each expression.

1. $8d - 3(2d - 5)$

    $= 8d + (-3 \times 2d) + (-3 \times -5)$

    $= 8d - 6d + 15$

    $= 2d + 15$

    WHEN THE 3 WAS MULTIPLIED, DID YOU SEE THAT THE MINUS OR NEGATIVE WENT WITH IT. $(-3 \times 2d) = -6d$ and $(-3 \times -5) = +15$.

2. $5(3a + 7)$

    15a + 35

3. $4 + 2(4e - 6)$

    8e - 8

4. $7(3 + 5h) - 11$

    35h + 10

5. $9u - 9(2u + 4) + 8$

    -9u - 28

6. $3(6k - 3) + 7(1 + k)$

    25k - 2

7. $2(3 - 4m) - 4(2m - 4)$

    -16m + 22

7. $17 - 8(6g + 2) + 17g$

    -31g + 1

9. $10(9 - 5w) - 6(-12 - 9w)$

    4w + 162

Fill in the empty boxes, find the answers, and shade. Be careful with the negative and positive numbers.

* $6\left(3r + 5\right)$

$= \left(6 \times \boxed{3r}\right) + \left(6 \times 5\right)$

$= \boxed{18r} + \boxed{30}$

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* $-4\left(7d - \boxed{-6}\right)$

$= \left(\boxed{-4} \times 7d\right) + \left(-4 \times 6\right)$

$= \boxed{-28d} - 24$

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* $\boxed{5}\left(9 + \boxed{8n}\right) - 20$

$= \left(5 \times 9\right) + \left(5 \times 8n\right) - 20$

$= \boxed{45} + \boxed{40n} - 20$

$= 40n + \boxed{25}$

* $-3\left(8k + 7\right)$

$= \left(-3 \times 8k\right) + \left(-3 \times 7\right)$

$= \boxed{-24k} - \boxed{21}$

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* $\boxed{11}\left(\boxed{-2b} - \boxed{13}\right)$

$= \left(11 \times -2b\right) + \left(11 \times -13\right)$

$= \boxed{-22b} + \boxed{-143}$

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* $\boxed{7}\left(\boxed{y} + \boxed{8}\right)$

$= \left(\boxed{7} \times \boxed{y}\right) + \left(\boxed{7} \times 8\right)$

$= 7y + 56$