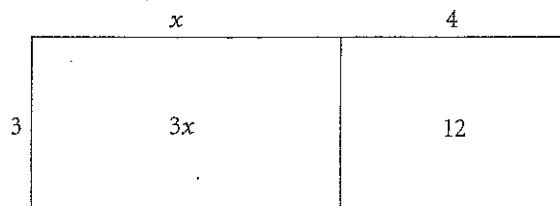




Quick Review

To multiply $3(x + 4)$:

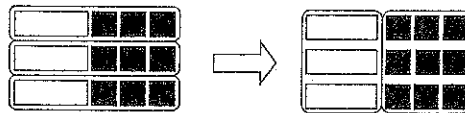
Draw a diagram.



$$3(x + 4) = 3x + 12$$

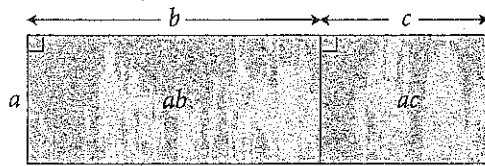
To multiply $2(x - 3)$:

Use algebra tiles.



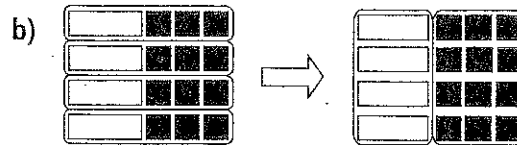
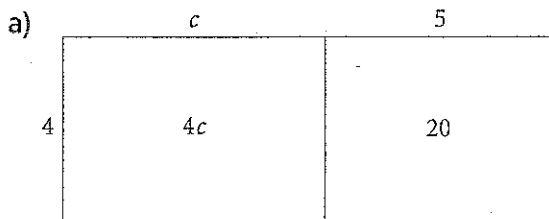
$$2(x - 3) = 2x - 6$$

The distributive property says that $a(b + c) = ab + ac$



Practice

1. Write the equation represented by each model.



2. Use algebra tiles to model each equation.

a) $2(y + 5) = 2y + 10$

b) $3(w - 1) = 3w - 3$

3. Use the distributive property to expand each expression.

a) $3(u - 6) =$ _____

b) $2(5 + q) =$ _____

c) $5(r + 1) =$ _____

d) $7(3 - p) =$ _____

4. Expand.

a) $-6(a - 7) =$ _____

b) $4(-5 - w) =$ _____

c) $-2(x - 20) =$ _____

d) $-1(b + 8) =$ _____

5. Vanessa expanded $3(y - 2)$ below. Did she make an error? YES/NO

$3(y - 2) = 3y - 5$

If so, write the correct solution.

6. Hazar is having 4 friends over to play video games. Each person will spend \$6 on game rental and \$4 on drinks and snacks.

a) Write two expressions for the total cost for Hazar and his friends.

b) Evaluate each of the expressions.

c) Show how the distributive property is being illustrated in this question.



Quick Review

Francis thought of his favourite number.
He subtracted 9.
Then he multiplied the difference by -2 .
The product was 10.
What is Francis's favourite number?

Let n represent Francis's favourite number. Write an equation to solve for n .

Start with n .

$$n$$

Subtract 9.

$$n - 9$$

Multiply the difference by -2 .

$$-2(n - 9)$$

The product is 10.

$$-2(n - 9) = 10$$

Solve the equation.

$$-2(n - 9) = 10$$

$$-2n + 18 = 10$$

$$-2n + 18 - 18 = 10 - 18$$

$$-2n = -8$$

$$\frac{-2n}{-2} = \frac{-8}{-2}$$

$$n = 4$$

Francis's favourite number is 4.

Practice

1. Solve each equation using the distributive property. Verify the results.

a) $4(r + 3) = -8$

b) $15 = 3(p - 7)$

c) $-3(m - 2) = 21$

d) $3 = 5(x + 7)$

e) $-6(7 + r) = 30$

f) $0 = 2(-2 + h)$

2. Brittany has some cookies. She gave four of them to friends. If she doubles the number that she has left, she will have 12 cookies.

a) Choose a variable to represent the number of cookies Brittany had at the start.

b) Write an algebraic expression to represent how many she would have if she gave four of them away to friends.

c) Now write an expression to double what you wrote in part b).

d) Write an equation for this problem and solve it.

e) Verify your answer and write a concluding statement.
