

Distributive Property

Multiplication 'distributes' over addition (and subtraction):

$$a(b + c) = ab + ac$$
$$a(b - c) = ab - ac$$

1. Substitute the given values for the equation $a(b + c) = ab + ac$. Study the example.

a. $a = 2$, $b = 10$, and $c = 4$

$$2(10 + 4) = 2 \times 10 + 2 \times 4$$

b. $a = 7$, $b = 8$, and $c = 5$

c. $a = 4$, $b = x$, and $c = 5$

2. Substitute the given values for the equation $a(b - c) = ab - ac$.

a. $a = 2$, $b = 10$, and $c = 4$

b. $a = 3$, $b = x$, and $c = 7$

c. $a = 9$, $b = x$, and $c = y$

3. Take out the parentheses using the distributive property.

a. $6(7 + 0.2)$

b. $6(x + 10)$

c. $2(x - 5)$

d. $4(110 + 40 + 3)$

e. $8(x - y)$

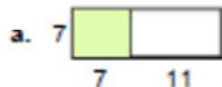
f. $4(8 - w - z)$

g. $y(2 + z)$

h. $a(b - c + 4)$

i. $4(t + r - s)$

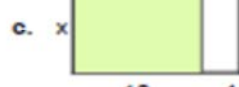
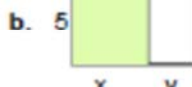
4. Write TWO expressions for the area according to the example.



Area...
as one rectangle:
as two rectangles:

$$7 \times (7 + 11)$$

$$7 \times 7 + 7 \times 11$$



5. Write these expressions using the distributive property of multiplication. Find their values in a, b, and c.

a. $8 \times 2 + 8 \times 500$

b. $7 \times 200 - 7 \times 0.4$

c. $4(100) - 4(20) + 4(5)$

d. $9y + 9z$

e. $7a - 7b + 7c$

f. $8x + 8$

6. Solve *mentally* using the distributive property.

a. $5 \times 98 = 5 \times (100 - 2) =$

b. 8×999

c. 4×20.5

d. 8×21.4

e. 4×49

f. $3 \times 3,028$

