

Warm-Up 9-25

Solve each equation for the specified variable.

1. Solve $V = lwh$ for h .

2. Solve $S + P = C$ for P .

3. Solve $A = \frac{ryc}{5}$ for r .

4. Solve $(b - c)y = f$ for b .

Warm-Up 9-25

Solve each equation for the specified variable.

1. Solve $V = lwh$ for h .

$$h = \frac{V}{lw}$$

2. Solve $S + P = C$ for P .

$$P = C - S$$

3. Solve $A = ryc$ for r .

$$r = \frac{SA}{yc}$$

$$b = \frac{f}{y} + c$$

4. Solve $(b - c)y = f$ for b .

$$b = \frac{f}{y} + c$$

$$b = \frac{f + cy}{y}$$

#12

$$n \frac{m}{n} = (p - 6)n \quad \text{for } n$$

$$\frac{m}{p-6} = \frac{(p-6)n}{p-6}$$

$$n = \frac{m}{p-6}$$

#15

$$\frac{x}{s} - g = A$$

$$\frac{x}{s} + g + g = A + g + g$$

for x

$$\frac{x}{s} = (A + g)s$$

$$x = s(A + g) \quad x = 5A - 5g$$

#30

$$E = \frac{9(5)}{18} = 2.5$$

$$\frac{Ei}{c} = \frac{9r}{c}$$

$$E = \frac{9r}{c}$$

5 runs
18 innings

18 = i
5 = r

$$\# 12. n \left(\frac{m}{n} \right) = (p-6)n \quad \text{for } n$$

$$\frac{m}{\cancel{p-6}} = \frac{\cancel{(p-6)}n}{\cancel{p-6}}$$

$$n = \frac{m}{p-6}$$

$$\# 14 \quad s = 180n - 360 \quad \text{for } n$$

$+360 \qquad \qquad +360$

$$\frac{s+360}{180} = \frac{180n}{180}$$

$$n = \frac{s+360}{180}$$

$$n = \frac{s}{180} + 2$$

Objectives

I can...

- Identify reflexive, symmetric, and transitive properties
- Find the identity and inverse for addition and multiplication
- Identify and use the associative and commutative properties of addition and multiplication
- Identify and use the distributive property
- Read and write algebraic expressions

Reflexive Property

$a = a$, for all real numbers.

$$2 = 2$$

$$35 = 35$$

Symmetric Property

If $a = b$ then $b = a$, for all real numbers.

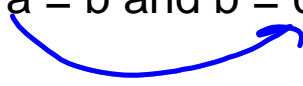
$$2+2=4 \quad 4=2+2$$

$$8=x$$

$$x=8$$

Transitive Property

If $a = b$ and $b = c$ then $a = c$, for all real numbers.



$$6 = 3 + 3 \quad 3 + 3 = 2 \cdot 3$$



$$6 = 2 \cdot 3$$

$$235x = 5a$$

$$5a = 45$$



$$235x = 45$$

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Identity Property

Addition

$a + 0 = a$, for all real numbers.

$$5 + 0 = 5$$

Multiplication

$a * 1 = a$, for all real numbers.

$$5(1) = 5$$

Inverse Property

Addition

$a + (-a) = 0$, for all real numbers.

$$5 + (-5) = 0$$

$$-5 + (-(-5)) = 0$$

Multiplication

$a(1/a) = 1$ ($a \neq 0$), for all real numbers.

$$4(1/4) = 1$$

$$1/4(4/1) = 1$$

Find the additive and multiplicative inverse.

$$1) \text{ Multiplicative inverse of } 4 = \frac{1}{4}$$

$\div 4$

$$2) \text{ Additive inverse of } 12 = -12$$

$$3) \text{ Additive inverse of } -\frac{4}{5} = +\frac{4}{5}$$

$$4) \text{ Multiplicative inverse of } \frac{3}{7} = \frac{7}{3}$$

$$5) \text{ Multiplicative inverse of } \frac{1}{7} = 7$$

$$6) \text{ Additive inverse of } 5 = -5$$

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Associative Property

Addition

$a + (b + c) = (a + b) + c$, for all real numbers.

$$2 + (3 + 4) = (2 + 3) + 4$$

$$2 + 7 = 5 + 4$$

$$9 = 9$$

Multiplication

$a(bc) = (ab)c$, for all real numbers.

$$2(3 \cdot 4) = (2 \cdot 3)4$$

$$2(12) = 6(4)$$

$$24 = 24$$

Commutative Property

Addition

$a + b = b + a$, for all real numbers.

$$4 + 5 = 5 + 4$$

Multiplication

$ab = ba$, for all real numbers.

$$5(4) = 4(5)$$

Distributive Property

Multiplication

$a(b + c) = ab + ac$, for all real numbers.

$$4(2 + 5) = 4(2) + 4(5)$$

$$5(x + 10y) = 5x + 50y$$

$2 + 3 = 3 + 2$	
$2 + (3 + 4) = (2 + 3) + 4$	
$2 + 0 = 2$	
$2 + (-2) = 0$	

$2 \times 3 = 3 \times 2$	
$2 \times (3 \times 4) = (2 \times 3) \times 4$	
$2 \times (3 + 4) = (2 \times 3) + (2 \times 4)$	
$2 \times 1 = 2$	
$2 \times \frac{1}{2} = 1$	

Activity!

Homework

Write out every definition with an example under each definition.

pg. 9 #6-11, 16, 31, 33, 35