# Algebra 1: 1.5 Rewriting Equations & Formulas DAY ONE Review WARM-UP:

# Solve the equation.

1. 
$$y - 4 = 9$$
  
 $y = 13$   
3.  $y - 4 = 9$   
 $y = 13$   
 $y = 13$   
 $y = -10$   
4.  $y = 5 \cdot -2$   
 $y = -10$   
5.  $y = 2.3$   
 $y = -2$   
 $y = -2.3$   
 $y = -2.3$ 

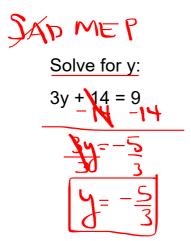
Warm Up

# **Learning Outcomes:**

I can rewrite literal equations.

I can rewrite (and use) formulas for area.

I can rewrite (and use) other common formulas.



Solve the <u>literal equation</u>

$$3y + 4x = 9 \text{ for } y.$$

$$-4x - 4x$$

$$-4x + 9$$

$$-4x + 9$$

$$3y + 4x = 9 \text{ for } y.$$

$$-4x - 4x$$

$$-4x + 9$$

$$3y + 4x = 9 \text{ for } y.$$

Example 1

# Solve the literal equation for y.

1. 
$$3y - x = 9$$

$$y = x + 9$$

$$y = \frac{x}{3} + 3$$

$$y = \frac{x}{3} + 3$$

$$y = \frac{1}{3}x + 3$$

2. 
$$2x - 2y = 5$$

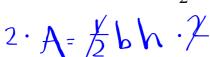
$$-2x - 2y = 5$$

$$-2x - 2x + 5$$

### YOUR TURN:

Solve the formula for the indicated variable.

7. Area of a triangle:  $A = \frac{1}{2}bh$ ; Solve for h.



$$h = \frac{2A}{b}$$

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#### **Common Formulas**

**Temperature** F = degrees Fahrenheit, C = degrees Celsius

$$C = \frac{5}{9}(F - 32)$$

I = interest, P = principal,

= annual interest rate (decimal form),

= time (years)

d = distance traveled, r = rate, t = time

**Example:** Solve the temperature formula for F.

etice: Solve the temperature formula for F.
$$\frac{9}{5} \cdot C = \frac{3}{3} (F - 32) \cdot \frac{9}{5} = \frac{9}{5} C = F - 32$$

$$F = \frac{9}{5} C + 32$$

### **Practice:**

9. A fever is generally considered to be a body temperature greater than 100°F. Your friend has a temperature of 37°C. Does your friend

/, (9/5)(37)+32 98.6 have a fever?  $F = \frac{9}{5}(37) + 32 = 98.6^{\circ} F$ 98.62100

# 1.5 Extra Practice WS

# 1.5 Rewriting Equations & Formulas Day 2

## **WARM-UP:**

#### Review...

Solve the formula for the indicated variable.

8. Surface area of a cone:S =  $\pi r^2 + \pi r \ell$ ; Solve for  $\ell$ 

#### What about this?

Solve the literal equation y = 3x + 5xz for x.

# **More Practice:**

Solve the literal equation for x.

**4.** 
$$y = 5x - 4x$$

**5.** 
$$2x + kx = m$$

**4.** 
$$y = 5x - 4x$$
 **5.**  $2x + kx = m$  **6.**  $3 + 5x - kx = y$ 

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## Your Turn:

The formula for the surface area S of a rectangular prism is

 $S = 2\ell w + 2\ell h + 2wh$ . Solve the formula for the length \( \ell. \)