

Name _____

Date _____ Pd. _____

Notes: Solving Equations and Formulas

Formula	A general _____ statement or rule.
Literal Equation	When solving for one particular _____ in an equation.

Solve for Variables Sometimes you may want to solve an equation such as $V = \ell wh$ for one of its variables. For example, if you know the values of V , w , and h , then the equation $\ell = \frac{V}{wh}$ is more useful for finding the value of ℓ . If an equation that contains more than one variable is to be solved for a specific variable, use the properties of equality to isolate the specified variable on one side of the equation.

Example 1Solve $2x - 4y = 8$ for y .**Example 2**Solve $3m - n = km - 8$ for m .**Example**

The formula $C = \pi d$ represents the circumference of a circle, or the distance around the circle, where d is the diameter. If an airplane could fly around Earth at the equator without stopping, it would have traveled about 24,900 miles. Find the diameter of Earth.

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Exit Card: Solving Equations and Formulas

1. The formula used to convert temperature measurements from degrees Fahrenheit (F) to degrees Celsius (C) is shown below.

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

What is the Celsius equivalent of 90 degrees Fahrenheit? Round the answer to the nearest degree.

F 18°

G 32°

H 68°

J 130°

2. The formula below can be used to find the actual air temperature (t) when the wind speed is 20 miles per hour.

$$t = \frac{2}{3}w + 26$$

(w = wind-chill temperature)

What is the actual air temperature if the wind-chill temperature is -12° ?

A -57° G -21° H 18° J 41°

3. The formula below can be used to find the distance (d) traveled by an object, where v represents the initial velocity of the object, t represents the time, in seconds, and a represents the acceleration, in meters per second squared.

$$d = vt + \frac{1}{2}at^2$$

A bicycle traveling at a velocity of 4.5 meters per second accelerates down a hill at a constant rate of 0.4 meters per second squared for 12 seconds. What is the distance, in meters, that the bicycle travels?

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17. Solve $3y + z = am - 4y$ for y

18. Solve $9a - 2b = c + 4a$ for a

19. Solve $km + 5x = 6y$ for m

20. $4b - 5 = -t$ for b

21. $\frac{3ax - n}{5} = -4$ for x