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Algebra /

Writing an equation and drawing its graph to model a real-world situation...

Writing an equation and drawing its graph to model a real-world situation: Advanced

Owners of a recreation area are filling a small pond with water. They are adding water at a rate of 35 liters per minute. There are 700 liters in the pond to start.

Let W represent the amount of water in the pond (in liters), and let T represent the number of minutes that water has been added. Write an equation relating W to T , and then graph your equation using the axes below.

Equation: $\boxed{\quad}$ 

$W = 35T + 700$

function: $W(T) = 35T + 700$

$y_{\text{int}} = 700$ $x_{\text{int}} = 0$





Pick any other numbers and plug them in
 $T = 1$
 $35(1) + 700 = 735$
 $35 + 700 = 735$

$y = mx + b$
 $m = \text{slope}$
 $b = y_{\text{int}}$
 $b = \text{starting point}$

Note: The Solve feature is not available to students.

Writing an equation and drawing its graph to model a real-world situation: Advanced

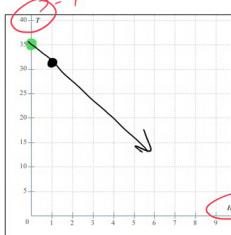
Scientists are studying the temperature on a distant planet. They find that the surface temperature at one location is 35° Celsius. They also find that the temperature decreases by 3° Celsius for each kilometer you go up from the surface.

Let T represent the temperature (in Celsius), and let H be the height above the surface (in kilometers). Write an equation relating T to H , and then graph your equation using the axes below.

$y = mx + b$
 $T = mH + b$

Equation: $\boxed{T = -3H + 35}$ 

$\textcircled{1} (0, \text{yint}) = (0, 35)$



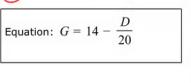


Writing an equation and drawing its graph to model a real-world situation: Advanced

Linda is driving on the highway. She begins the trip with 14 gallons of gas in her car. The car uses up one gallon of gas every 20 miles.

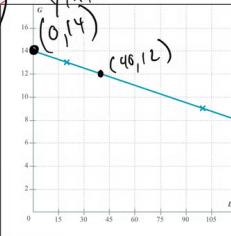
Let G represent the number of gallons of gas ~~she has left in her tank~~, and let D represent the total distance (in miles) she has traveled. Write an equation relating G to D , and then graph your equation using the axes below.

$G = 14 - \frac{D}{20}$

Equation: $G = 14 - \frac{D}{20}$ 

$20 \text{ miles} = 1 \text{ gal}$

$\text{y-intercept} = \text{starting point}$
 $\text{slope} = \text{change of rate}$





$\textcircled{1} \text{ y-intercept} = (0, \text{yint})$
 $\textcircled{2} \text{ Plug in a #}$

#Lines
#LinearEquationsAndInequalities

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