

Lesson 11: Constant Rate

Classwork

Example 1

Pauline mows a lawn at a constant rate. Suppose she mows a 35 square foot lawn in 2.5 minutes. What area, in square feet, can she mow in 10 minutes? t minutes?

$$\frac{35}{2.5} = \frac{y}{10}$$

$$\frac{2.5y}{2.5} = \frac{350}{2.5}$$

$$y = 140 \text{ sq. ft.}$$

Pauline can mow 140 sq. ft in 10 mins.

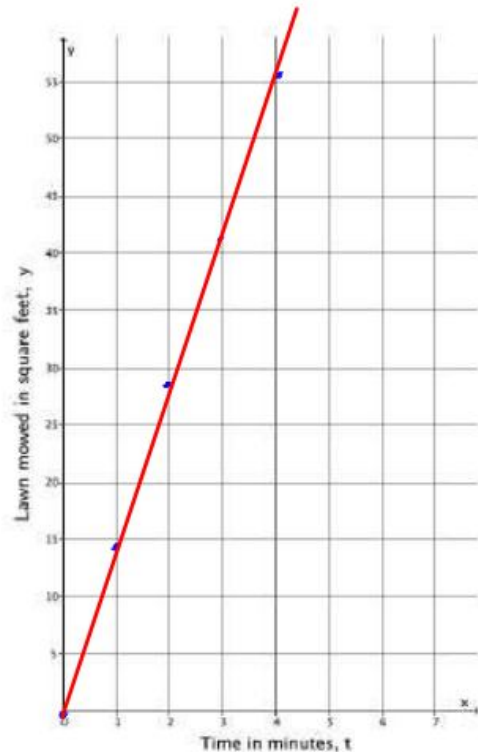
$$\frac{35}{2.5} = \frac{y}{t}$$

$$\frac{2.5y}{2.5} = \frac{35t}{2.5}$$

$$y = \frac{35}{2.5} t$$

$$y = 14t$$

t (time in minutes)	Linear equation: $y = 14t$	y (area in square feet)
0	$y = 14(0)$ $y = 0$	0
1	$y = 14(1)$ $y = 14$	14
2	$y = 14(2)$	28
3	$y = 14(3)$	42
4	$y = 14(4)$	56



Example 2

Water flows at a constant rate out of a faucet. Suppose the volume of water that comes out in ³three minutes is 10.5 gallons. How many gallons of water comes out of the faucet in t minutes?

$$\frac{10.5}{3} = \frac{y}{t}$$

$$\frac{3y}{3} = \frac{10.5t}{3}$$

$$y = \frac{10.5}{3}t$$

$$y = 3.5t$$

$$V = 3.5t$$

t (time in minutes)	Linear equation: $y = 3.5t$	V (in gallons)
0	$y = 3.5(0)$	0
1	$y = 3.5(1)$	3.5
2		7
3		10.5
4		14

