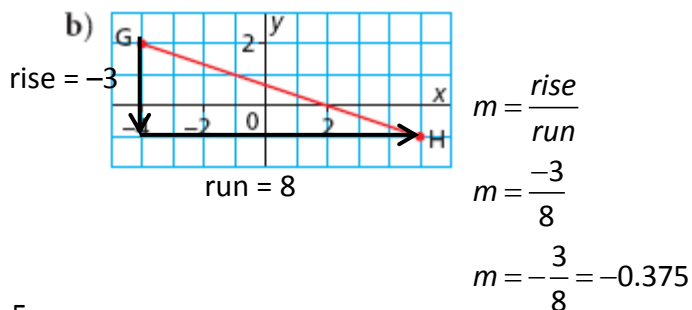
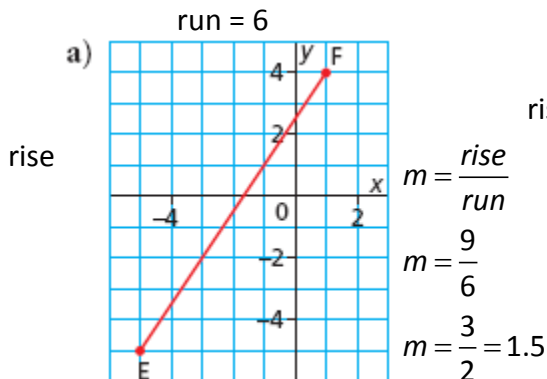


# Math 10

## Lesson 4-1 Answers

### Lesson Questions

#### Question 1



c)

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

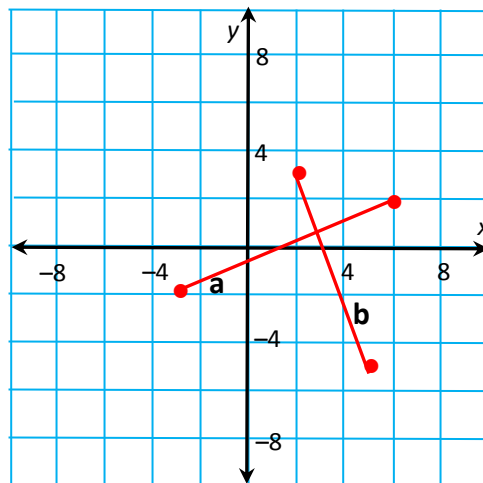
$$m = \frac{6 - (-5)}{8 - 4}$$

$$m = \frac{11}{4} = 2.75$$

#### Question 2

Draw the following line segments:

- a) Beginning at point  $(-3, -2)$  and with a slope of  $\frac{4}{9}$ .
- b) Beginning at point  $(2, 3)$  and with a slope of  $-\frac{8}{3}$ .



#### Question 3

a)

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{72 - 24}{6 - 2}$$

$$m = \frac{48}{4}$$

$$m = 12$$

b) The slope represents the number of dollars he earns per hour.

c)

i)  $P = 12t$       ii)  $P = 12t$

$P = 12(3)$

$P = 36$

$\frac{P}{12} = t$

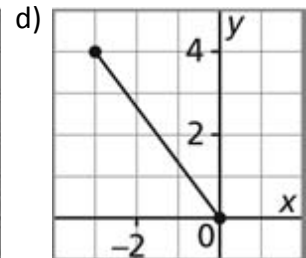
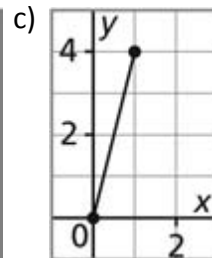
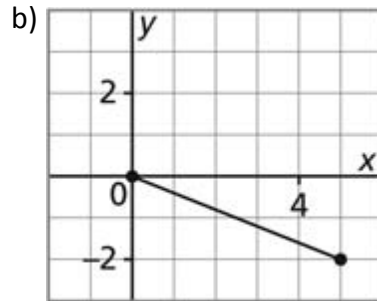
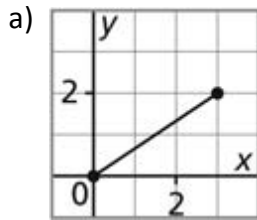
$t = \frac{30}{12}$

$t = 2.5\text{h}$



## Assignment

- Negative
  - Positive
  - Not defined
  - Zero
- Rise: 3; run: 6; slope:  $\frac{1}{2}$
  - Rise: -2; run: 8; slope:  $-\frac{1}{4}$
  - Rise: 3; run: 4; slope:  $\frac{3}{4}$
  - Rise: -6; run: 2; slope: -3
- 3
  - $-\frac{7}{2}$
  - $\frac{1}{2}$
  - $-\frac{1}{2}$
- Sketches may vary. The line segments may have different lengths but they should have the same orientations as those shown.

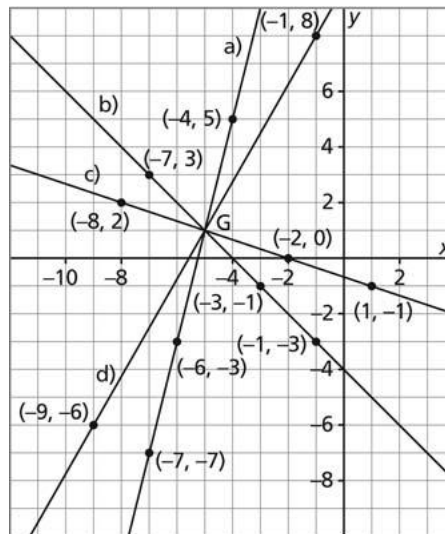


- $\frac{1}{2}$
  - $\frac{1}{2}$
  - The slopes in parts a and b are equal.
- i) 2    ii)  $\frac{1}{2}$     iii) -3    iv)  $\frac{1}{3}$
  - As  $x$  increases by 1,  $y$  increases by 2.
    - As  $x$  increases by 2,  $y$  increases by 1.
    - As  $x$  increases by 1,  $y$  decreases by 3.
    - As  $x$  increases by 3,  $y$  increases by 1.
- $\frac{1}{15}$  or  $0.0\bar{6}$
  - $13\frac{1}{2}$  in.

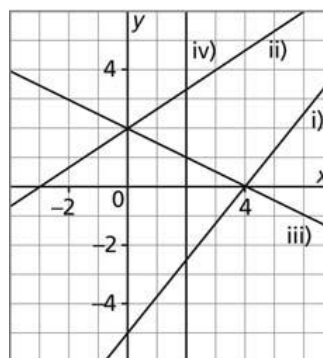
8. a)  $\frac{1}{48}$   
 b) 312 in., or 26 ft.  
 c)  $4\frac{1}{2}$  in.
9. a) i)  $-\frac{3}{5}$       ii)  $\frac{3}{5}$       iii)  $-\frac{3}{5}$       iv)  $\frac{3}{5}$   
 b) The slopes of BC and ED are equal. The slopes of BE and CD are equal. The two different slopes are opposites.
10. a)  $\frac{1}{3}$

11. Coordinates may vary. For example:

- a)  $(-4, 5), (-6, -3), (-7, -7)$   
 b)  $(-7, 3), (-3, -1), (-1, -3)$   
 c)  $(-8, 2), (-2, 0), (1, -1)$   
 d)  $(-1, 8), (-9, -6), (-13, -13)$

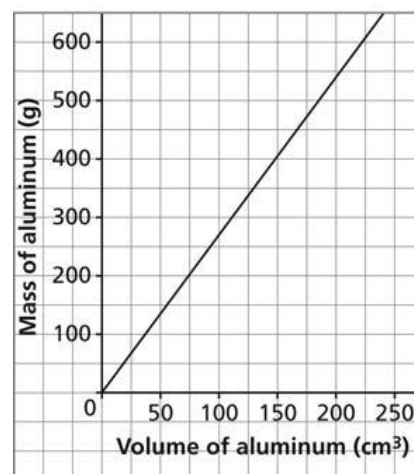


12. a) i) Positive  
 ii) Positive  
 iii) Negative  
 iv) Not defined  
 b) Sketches may vary. For example:



13. a)  
 b)  $2.7 \text{ g/cm}^3$   
 c) The slope shows that for every  $1 \text{ cm}^3$  increase in the volume of an aluminum cube, the mass of the cube increases by 2.7 g.  
 d) i) 135 g  
 ii) 742.5 g  
 e) i) Approximately  $37 \text{ cm}^3$   
 ii) Approximately  $167 \text{ cm}^3$

Mass and Volume of Aluminum



14. a) The number of text messages is restricted to whole numbers.  
b) \$0.15, or 15¢  
c) \$4.95  
d) 48 text messages  
e) Assumptions may vary. For example: I assumed that all messages cost the same.
15. a) \$45/month  
b) \$505  
c) \$55  
d) Assumptions may vary. For example: I assumed that Charin continues to save the same amount each month after the 5th month and that the savings account did not earn any interest.
16. a) 2      b)  $\frac{2}{3}$
17. No

