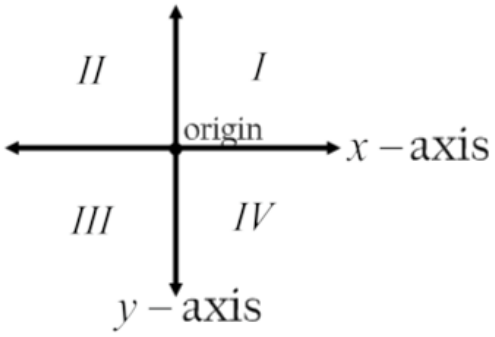
Answer Key

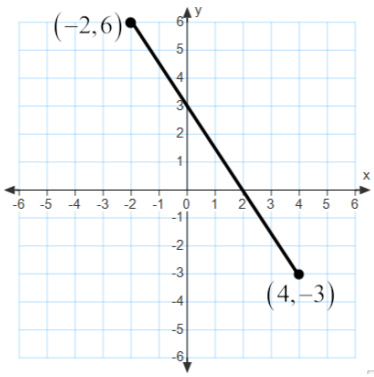
Chapter 1 Sections 1-5 Test Review

## Section 1

1.




2.




2a) $d = 3\sqrt{13} \approx 10.82$

2b) $\left(1, \frac{3}{2}\right)$

3a) $IV$ b) $III$

4a) $(-1,2) \to (-3,-2)$

$(1,-4) \to (-1,-8)$

$(2,3) \to (0,-1)$

## Section 2

5. $x$ – int $(-6,0)$; $y$ – int $(0,2)$
6. $x$ – int $(3,0)$ and $\left(\frac{1}{3},0\right)$; $y$ – int $(0,1)$
7. no $x$ – int; $y$ – int $(0,7)$
8. $x$ – int $\left(\frac{37}{2},0\right)$; no $y$ – int
9. $x$ – int $\left(2+\sqrt{3},0\right)$ and $\left(2-\sqrt{3},0\right)$; $y$ – int $(0,1)$
10. $x$ – int $(3,0)$, $(5,0)$ and $(-5,0)$; $y$ – int $(0,75)$
11. $(x-2)^2 + y^2 = 25$

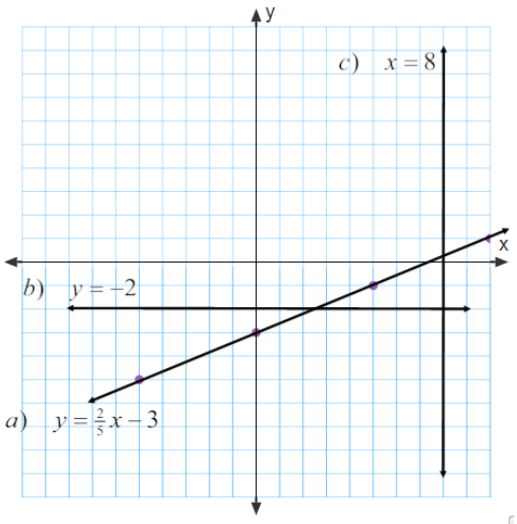
## Section 3

12. $m = -\frac{1}{2}$

13. a) $y = \frac{2}{5}x - 3$

b) $y = -2$

c) $x = 8$



14 a) $y = \frac{3}{2}x - \frac{13}{2}$

b) $y = -\frac{1}{2}x + \frac{5}{2}$

c) $x = 3$

d) $y = \frac{3}{2}x + 2$

e) $y = \frac{3}{5}x - \frac{28}{5}$

f) $y = -\frac{7}{2}x - \frac{35}{2}$

g) $x = 5$

## Section 4

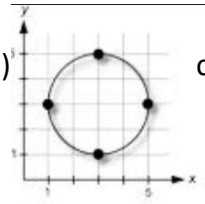
15 a) function

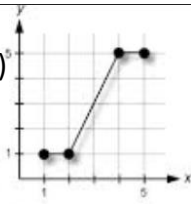
b) not a function

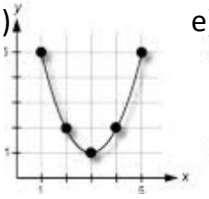
c) function

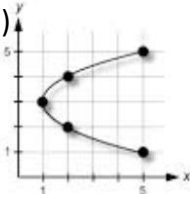
d) function

e) not a function

b) 

c) 

d) 

e) 

16 a) $y = 2x - 5$; function

b) $y = \sqrt{x-3}$; function

c) $y = \dfrac{1}{x+3} + 2$; function

d) $y = \pm\sqrt{-x+16}$; not a function

e) $y = x^2 - 4$; function

17 a) $(-\infty, \infty)$ or $\mathbb{R}$

b) $(-\infty, \infty)$ or $\mathbb{R}$

c) $(-\infty, 2) \cup (2,6) \cup (6, \infty)$ or $\mathbb{R}$ except $x = 2,6$

d) $(-\infty, -5] \cup [5, \infty)$

e) $(-\infty, \infty)$ or $\mathbb{R}$

18 a) $(3,8)$

b) $(-2,8)$

c) $\left(\dfrac{1}{3}, \dfrac{16}{9}\right)$

d) $f(x+3) = x^2 + 5x + 8$

19 a) $(3,7)$

b) $(-2,8)$

c) $\left(\frac{1}{3},-\frac{17}{9}\right)$

d) $(-3,13)$

20 a) $m_{\text{sec}} = 2x + h - 2$

b) $m_{\text{sec}} = 2x + h - 6$

21 a) $\left(\frac{1}{3},0\right)$ and $(2,0)$

b) $\left(\frac{27}{5},0\right)$

c) $(5,0)$

d) $(7,0)$ and $(-5,0)$

22 a) $m_{\text{sec}} = 5$

b) $m_{\text{sec}} = 16$