

Chapter 2 Review Key

1. sometimes

2. point-slope

3. D: $\{-10, -6, 5, 6, 10\}$

R: $\{2, 3, 4, 7\}$ Yes

4. D: $\{1, 3, 4, 10\}$

R: $\{5, 4, 8, 12\}$ No

5. D: $\{-2, -\frac{3}{2}, -1, \frac{1}{2}, 1, 2, 3\}$

R: $\{-\frac{1}{2}, -\frac{1}{2}, 0, \frac{1}{2}, \frac{3}{2}, 2, \frac{5}{2}\}$ No

6. D: $\{-2, -1, \frac{1}{2}, 3\}$

R: $\{2\}$ Yes.

$$7. f(-2) = -(-2) + 4 = 4 \quad f(-0.5) = -(-0.5) + 4 = 4.5$$

$$f(3) = -3 + 4 = 1$$

$$8. f(-2) = \frac{3}{5}(-2) - 3 = -\frac{6}{5} - 3 = -\frac{21}{5} = -4\frac{1}{5}$$

$$f(-0.5) = \frac{3}{8}(-0.5) - 3 = -\frac{3}{16} - 3 = -\frac{51}{16} = -3\frac{3}{16}$$

$$f(3) = \frac{3}{8}(3) - 3 = \frac{9}{8} - 3 = -\frac{15}{8} = -1\frac{7}{8}$$

9. $y = kx$

$$k = \frac{y}{x} = \frac{2}{1} = 2$$

No, not Direct

10. $y = kx$

$$k = \frac{y}{x} = \frac{2}{3}$$

No, Not Direct

11. $y = kx$

$$k = \frac{y}{x} = \frac{1}{1} = 1$$

$$y = x$$

12. ① $y = kx$

② $2 = k(\frac{1}{2})$

$$4 = k$$

③ $y = 4x$

④ $y = 4(0.3)$
 $= 1.2$

13. ① $y = kx$

② $\frac{10}{3} = k(0.2)$

$$\frac{10}{3} = k$$

③ $y = \frac{10}{3}x$

④ $y = \frac{10}{3}(-0.3)$
 $= -1$

14. ① $y = kx$

② $7 = k(2)$

$$\frac{7}{2} = k$$

③ $y = \frac{7}{2}x$

④ $y = \frac{7}{2}(-0.3)$
 $= -\frac{21}{20} = -1\frac{1}{20}$

15. ① $y = kx$

② $4 = k(-3)$

$-\frac{4}{3} = k$

③ $y = -\frac{4}{3}x$

④ $y = -\frac{4}{3}(-0.3)$
 $= \frac{2}{5}$

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

$m = \frac{3 - 1}{1 - 6} = -\frac{2}{5}$

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

$m = \frac{4 + 3}{4 + 2} = \frac{7}{6}$

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

$m = \frac{2 + 2}{3 + 3} = \frac{4}{6} = \frac{2}{3}$

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

$m = \frac{4 - 2}{-1 + 5} = -\frac{4}{9}$

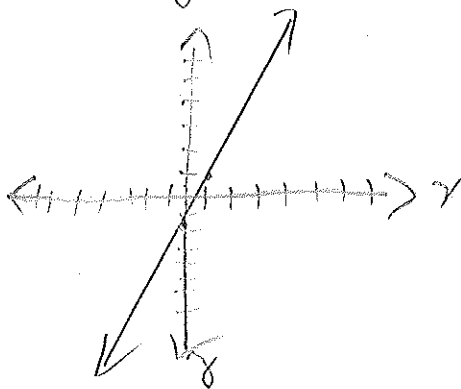
20. $y = +3x + 4$

21. $y = \frac{1}{2}x + 6$

22. $4y - 2y = 3$

$2y = -4x + 3$

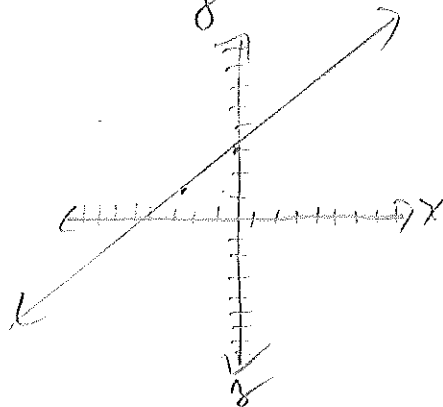
$y = -2x + \frac{3}{2}$



23. $-4x + 6y = 18$

$6y = 4x + 18$

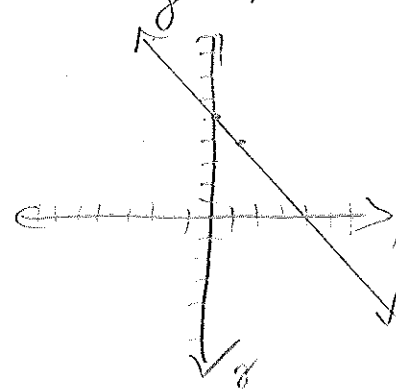
$y = \frac{2}{3}x + 3$



24. $3y + 3x = 15$

$3y = -3x + 15$

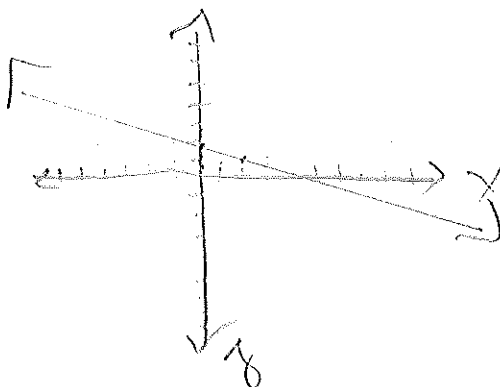
$y = -x + 5$



25. $3y + x = 5$

$3y = -x + 5$

$y = -\frac{1}{3}x + \frac{5}{3}$



$$24. y - y_1 = m(x - x_1)$$

$$y - 0 = -3(x - 4)$$

$$y = -3x + 12$$

$$3x + y = 12$$

$$27. y - y_1 = m(x - x_1)$$

$$y + 1 = 5(x - 1)$$

$$y + 1 = 5x - 5$$

$$-5x + y = -6$$

$$5x - y = 6$$

$$28. y - y_1 = m(x - x_1)$$

$$y - 0 = -\frac{7}{3}(x - 0)$$

$$y = -\frac{7}{3}x$$

$$\left(\frac{7}{3}x + y = 0\right) \cdot 3$$

$$7x + 3y = 0$$

$$m = \frac{-7 - 0}{3 - 0} = -\frac{7}{3}$$

$$29. y - y_1 = m(x - x_1) \quad m = \frac{\sqrt{-3}}{3 - 2}$$

$$y - 3 = 2(x - 2)$$

$$= \frac{2}{1} = 2$$

$$y - 3 = 2x - 4$$

$$-2x + y = -1$$

$$2x - y = 1$$

$$30. a. x + 2y = 6 \quad m = -\frac{1}{2}$$

$$y - 3 = -\frac{1}{2}(x - 6)$$

$$y - 3 = -\frac{1}{2}x + 3$$

$$y = -\frac{1}{2}x + 6$$

$$b. \perp m = 2$$

$$y - 3 = 2(x - 6)$$

$$y - 3 = 2x - 12$$

$$y = 2x - 9$$

31. Create scatterplot & trend line in calculator

$$r = .9588$$

Strong, positive correlation

$$y = .96x + 3 \text{ (Sample)}$$

$$32. r = -.9792$$

Strong, negative correlation

$$y = -.80x + 19.875$$

(Sample)

33. $r = .98$

Strong positive correlation

$y = 4.1x + 21.5$ (Sample)

34. $y = |x+2| - 7$

35. $y = -|x-5|$

36. $y = |-x| + 3$

37. Translated 4 units down

38. Stretched by a factor of 12
Translated 2 units up

39. Stretched by a factor of 2, reflected over the y-axis, then reflected over the x-axis

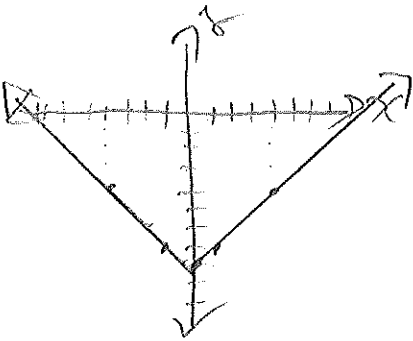
40. $y = |x-2| + 4$

41. $y = |x+3|$

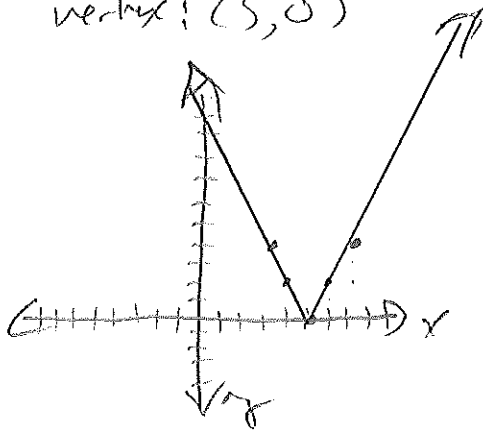
42. $y = |x-5| + 2$

43. $y = |x-4| + 1$

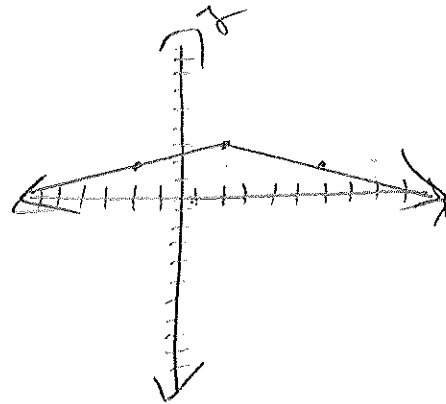
44. $f(x) = |x| - 8$
Vertex: $(0, -8)$



45. $f(x) = 2|x-5|$
Vertex: $(5, 0)$



46. $y = -\frac{1}{4}|x-2| + 3$
Vertex: $(2, 3)$

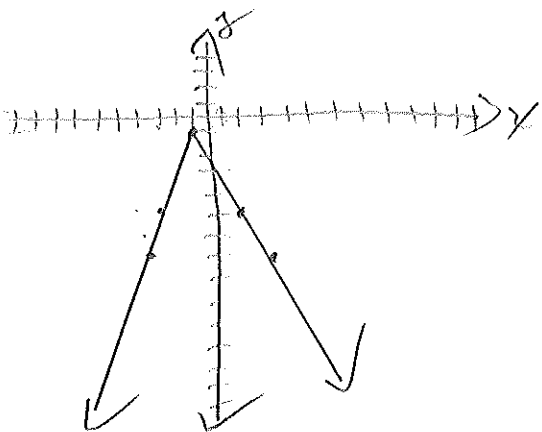


x	y
1	-7
4	-4

x	y
6	2
7	4

x	y
6	2.75
7	2.75

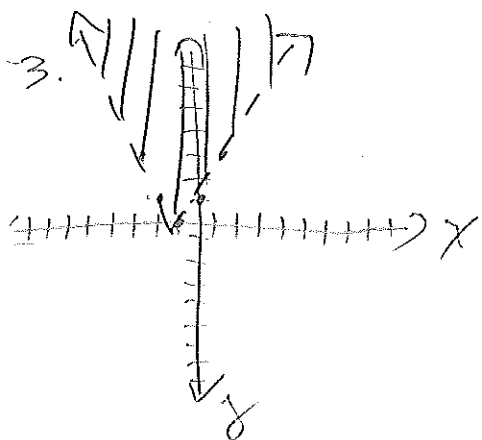
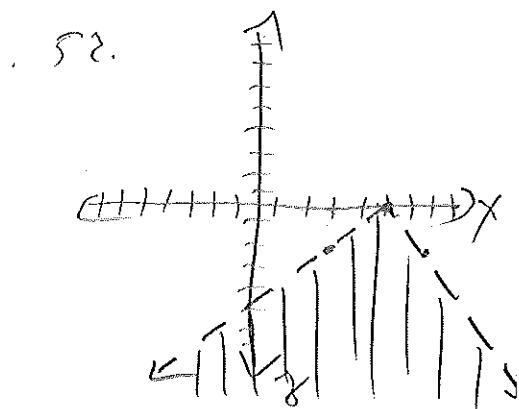
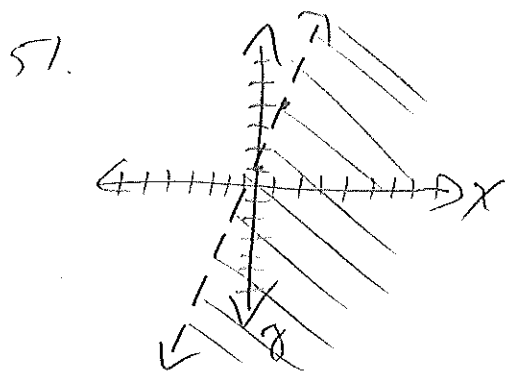
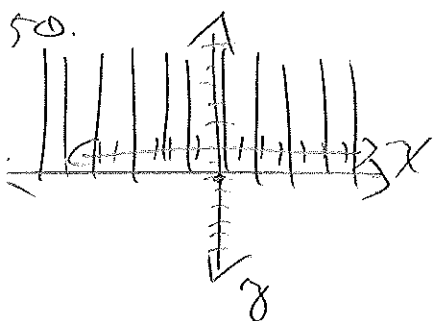
47. $y = -2|x+1| - 1$
 vertex: $(-1, -1)$



x	y
1	-5
2	-7

48. $y = 2|x-4|$
 vertex: $(4, 0)$
 axis: $x = 4$

49. $y = -|x| + 2$
 vertex: $(0, 2)$
 axis: $x = 0$



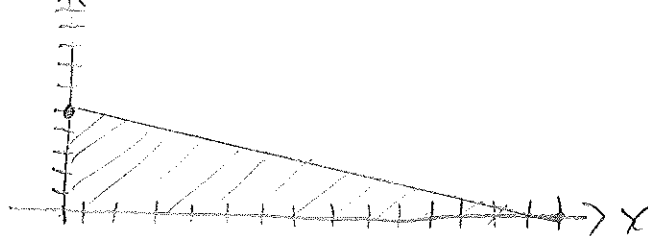
54. $x =$ size regular ship can
 $y =$ " super-size " "

a. $x + 3y \leq 15$

b. $D: \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15\}$

$R: \{0, 1, 2, 3, 4, 5\}$

c. x



55. Sample

$y \leq -|x-5|$
 $y \leq -|x|-1$

