

g 117 # 6, 26, 28, 43, 56-58,
61, 63, 72-76, 87-91,
93, 134, 150

1) $(-2, 6)(4, -3)$

midpt: $(1, \frac{3}{2})$

$= \sqrt{(-2-4)^2 + (6+3)^2}$

$= \sqrt{36 + 81}$

$= \sqrt{117} = 3\sqrt{13}$

26) $y = |x+1| - 3$

$x\text{-int: } 0 = |x+1| - 3$

$|x+1| = 3$

$x+1 = 3 \quad | \quad x+1 = -3$

$x = 2$

$x = -4$

$y\text{-int: } y = |1| - 3$

$y = -2$

$x\text{-int: } (2, 0)(-4, 0)$

$y\text{-int: } (0, -2)$

28) $y = x\sqrt{4-x^2}$

$x\text{-int: } 0 = x\sqrt{4-x^2}$

$x=0 \quad | \quad \sqrt{4-x^2} = 0$
 $4-x^2 = 0$

$4 = x^2$

$x = \pm 2$

$x\text{-int: } (0, 0)$

$(\pm 2, 0)$

$y\text{-int: } (0, 0)$

$$3) (0,0)(4,-6)$$

$$\text{Center: } (2, -3)$$

$$(4-0)^2 + (-6-0)^2$$

$$4^2 + (-6)^2$$

$$16 + 36 = \sqrt{52}$$

$$2\sqrt{13}$$

$$\sqrt{13}$$

$$x^2 + (y+3)^2 = 13$$

$$56) (-2, 6) \quad m=0$$

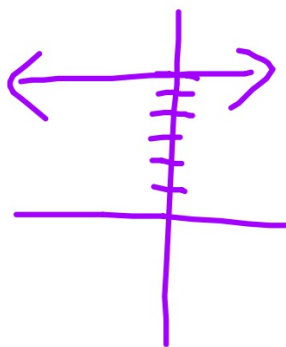
$$y = mx + b$$

$$6 = 0(-2) + b$$

$$6 = b$$

$$y = 0x + 6$$

$$y = 6$$



$$57) (10, -3) \quad m = -\frac{1}{2}$$

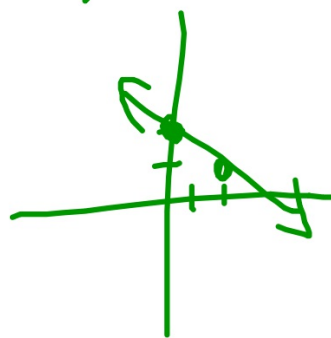
$$y = mx + b$$

$$-3 = -\frac{1}{2}(10) + b$$

$$-3 = -5 + b$$

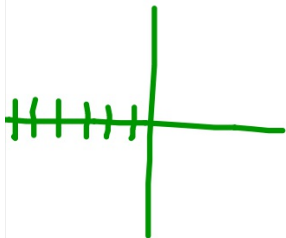
$$2 = b$$

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



8) $(-8, 5)$ $m = -1$

$x = -8$



6) $(-1, 4)$ $(2, 0)$

$$m = \frac{0 - 4}{2 - (-1)} = \frac{-4}{3}$$

$$y = mx + b$$

$$0 = \frac{-4}{3}(2) + b$$

$$0 = \frac{-8}{3} + b$$

$$\frac{8}{3} = b$$

$$y = \frac{-4}{3}x + \frac{8}{3}$$

63) $(3, -2)$

$$5x - 4y = 8$$

a) $m = \frac{5}{4}$

$$y = mx + b$$

$$-2 = \frac{5}{4}(3) + b$$

$$-2 = \frac{15}{4} + b$$

$$-\frac{23}{4} = b$$

$$y = \frac{5}{4}x - \frac{23}{4}$$

b) $m = \frac{-4}{5}$

$$y = mx + b$$

$$-2 = \frac{-4}{5}(3) + b$$

$$-2 = \frac{-12}{5} + b$$

$b = \frac{2}{5}$

$$y = \frac{-4}{5}x + \frac{2}{5}$$

72) a) -3

b) -1

c) 2

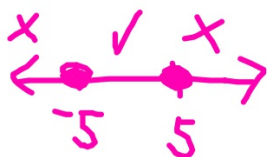
d) 6

73) $\sqrt{25-x^2}$

$$25-x^2 \geq 0$$

$$25 \geq x^2$$

$$x^2 \leq 25$$



$$D: [-5, 5]$$

74) $3x+4$

$$D: (-\infty, \infty)$$

75) $\frac{x}{x^2-x-6}$

$$x^2-x-6 \neq 0$$

$$(x-3)(x+2) \neq 0$$

$$x \neq 3, -2$$

$$D: (-\infty, -2) \cup (-2, 3) \cup (3, \infty)$$

76) $|x+1|$

$$D: (-\infty, \infty)$$

87) $f(x) = \frac{8x+3}{11-x} = 0$

$$8x+3=0$$

$$x = -\frac{3}{8}$$

88) $(x^3-x) + 25x+25$

$$x^2(x-1) - 25(x-1) =$$

$$(x-1)(x^2-25) = 0$$

$$x = 1, \pm 5$$

(89) $I: (-\infty, \infty)$
 $D: (-\infty, -1)$
 $C: (-1, 0)$

(90) $I: (-2, 0) \cup (2, \infty)$
 $D: (-\infty, -2) \cup (0, 2)$
 $C: \text{none}$

(91) $f(x) = -x^2 + 2x + 1$
 $\text{Max: } (1, 2)$

(93) $f(x) = x^3 - 6x^4$
 $\text{Max: } (.125, 0)$

134 $f(x) = x^3 - 4$
 $g(x) = \sqrt[3]{x+7}$
 $f(g(x)) = \sqrt[3]{x+7}^3 - 4$
 $= x+7-4$
 $= x+3$
 $(g \circ f)(x) = \sqrt[3]{x^3-4+7}$
 $= \sqrt[3]{x^3+3}$

150 $f(x) = x^3 + 2$
 $x = y^3 + 2$
 $x-2 = y^3$
 $y^{-1} = \sqrt[3]{x-2}$

