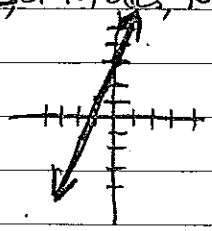
P.117 (# 3, 4, 19, 21, ~~23~~, 25-27, 29-35 odds, 46, 55-75 odds, ~~77~~, 81-101 odds, 90)

(3) $x>0, y=-2$ IV

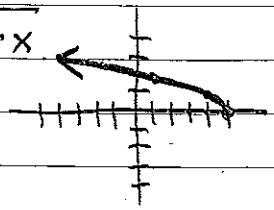
(4) $y>0$ I, II

(19) $y-2x-3=0$

$y=2x+3$



(21) $y=\sqrt{5-x}$



(25)

$0=2x+7$

$-7=2x$

$-\frac{7}{2}=x$

$y=2\cdot0+7$

$y=7$

$(-\frac{7}{2},0)\ (0,7)$

(26)

$0=|x+1|-3$

$3=|x+1|$

$3=x+1$ or $-3=x+1$

$2=x$ or $-4=x$

$y=|0+1|-3$

$y=1-3$

$y=-2$

$(2,0)(-4,0)\ (0,-2)$

(27)

$0=(x-3)^2-4$

$4=(x-3)^2$

$\pm\sqrt{4}=x-3$

$\pm2=x-3$

$3\pm2=x$

$y=(0-3)^2-4$

$y=(-3)^2-4$

$y=9-4$

$y=5$

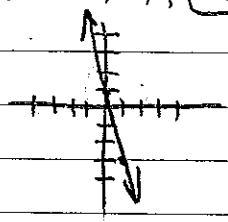
$(5,0)(1,0)\ (0,5)$

(29) $y=-4x+1$

$y=-4(-x)+1$ ✗

$-y=-4x+1$ ✗

$-y=-4(-x)+1$ ✗ NONE

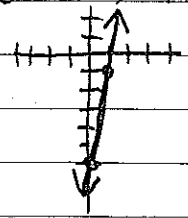


(30) $y=5x-6$

$y=5(-x)-6$ ✗

$-y=5x-6$ ✗

$-y=5(-x)-6$ ✗ NONE

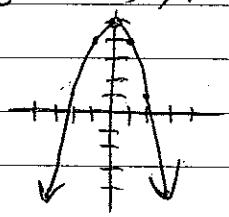


(31) $y=5-x^2$

$y=5-(-x)^2$ ✓ Y-AXIS

$-y=5-x^2$ ✗

$-y=5-(-x)^2$ ✗

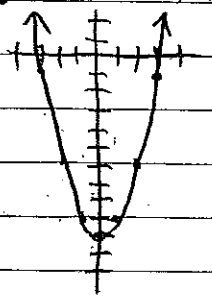


(32) $y=x^2-10$

$y=(-x)^2-10$ ✓ y-axis

$-y=x^2-10$ ✗

$-y=(-x)^2-10$ ✗

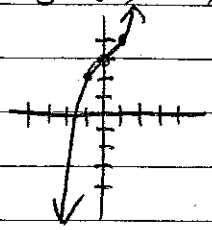


(33) $y=x^3+3$

$y=(-x)^3+3$ ✗

$-y=x^3+3$ ✗

$-y=(-x)^3+3$ ✗ None

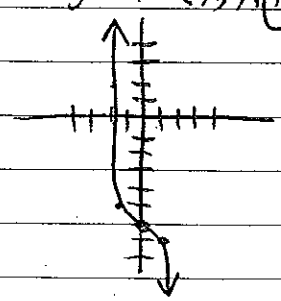


(34) $y=-6-x^3$

$y=-6-(-x)^3$ ✗

$-y=-6-x^3$ ✗

$-y=-6-(-x)^3$ ✗ NONE

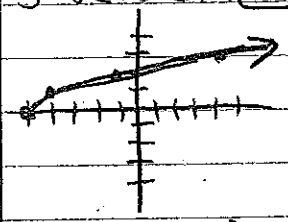


(35) $y=\sqrt{x+5}$

$y=\sqrt{(-x)+5}$ X

$-y=\sqrt{x+5}$ X

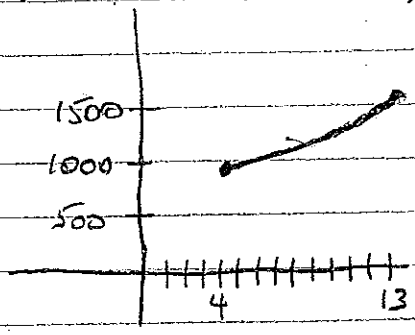
$-y=\sqrt{(-x)+5}$ X **NONE**



(46) a) $N=3.69t^2+939$ b) $1300=3.69t^2+939$

$t=9.891$

1999



(55) $(0,-5)$ $m=\frac{3}{2}$

$y=\frac{3}{2}x-5$

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

$-3-\frac{-1}{2}\cdot 10=b=2$

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

(59) $(0,0)(0,10)$

$m=\frac{10-0}{0-0}=\frac{10}{0}=$ Undef.

$x=0$

(61) $(-1,4)(2,0)$

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

$0-\frac{-4}{3}\cdot 2=b=\frac{8}{3}$

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

(63) $5x-4y=8$

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

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

$(3,-2)$ $m=\frac{5}{4}$

$-2-\frac{5}{4}\cdot 3=b=\frac{-23}{4}$

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

$(3,-2)$ $m=\frac{-4}{5}$

$-2-\frac{-4}{5}\cdot 3=b=\frac{2}{5}$

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

(65) $(6,12500)$ $m=850$

$12500-850\cdot 6=b=7400$

$V=850t+7400$

(67) $16x-y^4=0$

No

(69) $y=\sqrt{1-x}$

Yes

(71) $f(x)=x^2+1$

$f(2)=$ **5**

$f(-4)=$ **17**

$f(t^2)=$ t^4+1

$f(t+1)=$ t^2+2t+2

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

$25-x^2\geq 0$

$-x^2\geq -25$

$x^2\leq 25$

$[-5,5]$

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

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

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

$x\neq -2,3$

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

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

Yes

(83) $x-4=y^2$

No

(85) $f(x)=3x^2-16x+21$

$0=(3x-7)(x-3)$

$x=\frac{7}{3},3$

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

$0=8x+3$

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

(89) $f(x) = |x| + |x+1|$

Dec. $(-\infty, -1)$
Constant $(-1, 0)$
Inc. $(0, \infty)$

(90) $f(x) = (x^2-4)^2$

Dec $(-\infty, -2) \cup (0, 2)$
Inc $(-2, 0) \cup (2, \infty)$

(91) $f(x) = -x^2 + 2x + 1$

Max $(1, 2)$

(93) $f(x) = x^3 - 6x^4$

Max $(0.13, 0)$

(95) $f(x) = -x^2 + 8x - 4$

$f(0) = -0^2 + 8 \cdot 0 - 4 = -4$

$f(4) = -4^2 + 8 \cdot 4 - 4 = 12$

$m = \frac{12 - -4}{4 - 0} = \frac{16}{4} = \boxed{4}$

(97) $f(x) = 2 - \sqrt{x+1}$

$f(3) = 2 - \sqrt{3+1} = 0$

$f(7) = 2 - \sqrt{7+1} = 2 - \sqrt{8} = 2 - 2\sqrt{2}$

$m = \frac{(2-2\sqrt{2}) - 0}{7 - 3} = \frac{2-2\sqrt{2}}{4} = \boxed{\frac{1-\sqrt{2}}{2}}$

(99) $f(x) = x^5 + 4x - 7$

$y = (-x)^5 + 4(-x) - 7$ ✗

$-y = (-x)^5 + 4(-x) - 7$ ✗

Neither

(101) $f(x) = 2x\sqrt{x^2+3}$

$y = 2(-x)\sqrt{(-x)^2+3}$ ✗

$-y = 2(-x)\sqrt{(-x)^2+3}$ ✓ origin

Odd