pg. 293 48, 53, 60, 65, 69

No Decimals!

48

$2x^2+4x-3=0$

$2x^2+4x=3$

$2(x^2+2x+1)=3+2$

$2(x+1)^2=5$

$\sqrt{(x+1)^2}=\sqrt{\frac{5}{2}}$

$x+1=\pm\frac{\sqrt{5}}{\sqrt{2}}\cdot\frac{\sqrt{2}}{\sqrt{2}}$

$x+1=\pm\frac{\sqrt{10}}{2}$

$x=-1\pm\frac{\sqrt{10}}{2}$

$x=\frac{-2}{2}(-1)\pm\frac{\sqrt{10}}{2}$ ← get

$x=\frac{-2\pm\sqrt{10}}{2}$

53

$2x^2+3x-18=0$

a) $D=b^2-4ac$

$D=9-4(2)(-18)$

$D=9+144$

$D=153$

b) 2 real roots

c) $\underset{a}{2}x^2+\underset{b}{3}x-\underset{c}{18}=0$

$x=\frac{-3\pm\sqrt{3^2-4(2)(-18)}}{2(2)}$

$x=\frac{-3\pm\sqrt{153}}{4}$

$x=\frac{-3\pm\sqrt{9\cdot17}}{4}$

$x=\frac{-3\pm3\sqrt{17}}{4}$

$x = \frac{-3 \pm 3\sqrt{17}}{4}$

(60) $y = 2x^2 + 12x - 8$

$y + 8 = 2x^2 + 12x$

$18 + y + 8 = 2(x^2 + 6x + 9)$

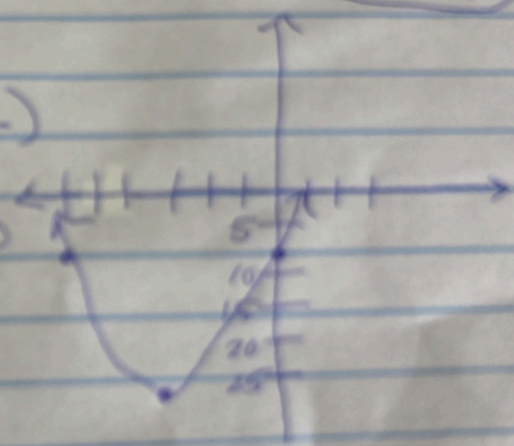
$y + 26 = 2(x+3)^2$

VF $y = 2(x+3)^2 - 26$

Vertex $(-3, -26)$

axis sym $x = -3$

opens up



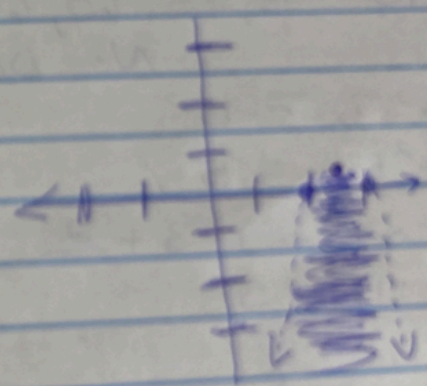
(65) $y < -x^2 + 5x - 6$

$x = -\frac{5}{2(-1)}$

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

$x = 2.5$

x	y
2	0
2.5	0.25
3	0



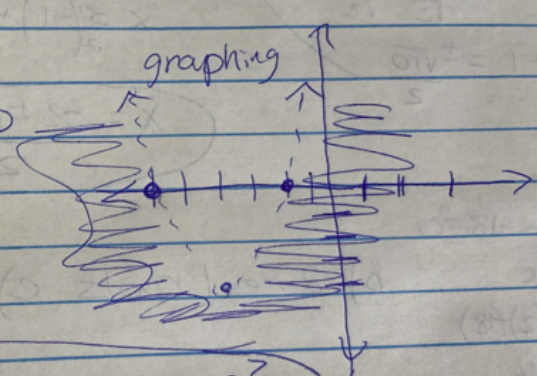
(69) $x^2 + 8x + 12 > 0$

Alg $(x+6)(x+2) > 0$

$x + 6 = 0 \quad x + 2 = 0$

$x = -6 \quad x = -2$

graphing



x	y
-6	0
-4	-4
-2	0

$\{x \mid x < -6 \text{ or } x > -2\}$