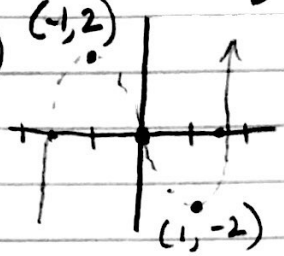
Pg 82

graph calc (find max + min)

#67) 

$x(x^2-3)$
$x=0$
$x=\pm\sqrt{3}$

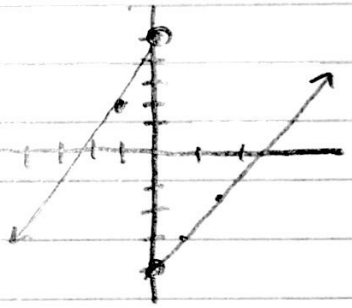
inc: $(-\infty,-1)$ $(1,\infty)$

dec: $(-1,1)$

#71) $f(x)=(x^2-4)^2$ → graph calc.
min: $(-2,0)$ $(2,0)$ max $(0,16)$

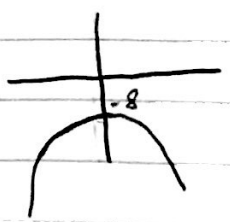
#73) $f(x)=x^3+4x^2+3$ → graph calc.
max $(-2.67, 12.48)$
min $(0,3)$

#75) $f(x)=\begin{cases}3x+5, & x<0\\ x-4, & x\geq 0\end{cases}$



#90) $f(x)=|x|$
$f(x)=|x|+3$

#99) a) cubic
b) right 2, up 5
c) 
d) $h(x)=f(x-2)+5$

#100) a) quadratic
b) flipped over y-axis, down 8
c) 

d) $h(x)=f(-x)-8$

#107) $(f-g)(4) = [3-2(4)] - (\sqrt{4}) = \boxed{-7}$

#109) $(f+g)(25) = [3-2(25)] + (\sqrt{25}) = \boxed{-42}$

#111) $(fh)(1) = (3-2(1))(3(1)^2+2) = (1)(5) = 5$

#115) $(f \circ h)(-4) =$

$f \circ h = 3-2(3x^2+2)$

$= 3-6x^2-4$

$= -6x^2-1$

$(f \circ h)(-4) = -6(-4)^2-1 = -97$

#129) $f(g(x)) = 3-4\left(\frac{3-x}{4}\right) =$

$3-3+x = x$

$g(f(x)) = \frac{3-(3-4x)}{4} = \frac{3-3+4x}{4} = x$

#137) $f(x) = -5x^3-3$

$y = -5x^3-3$

$x = -5y^3-3$

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

$y = \sqrt[3]{\frac{x+3}{-5}}$