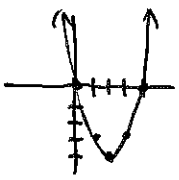
Review Test 1.2 Solutions

1) 

Q IV

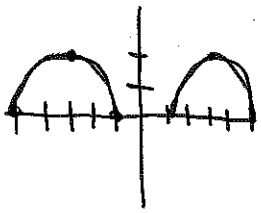
2) $y = -4x - 2$

x	y
-1	2
0	-2
1	-6

3) 

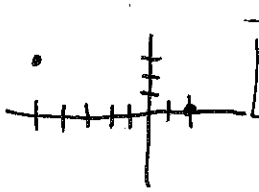
x	y
0	0
1	-3
2	-4
3	-3
4	0

4) x-int: (-2,0) (0,0) (2,0) y-int: (0,0)

5) 

6)

x-axis:	y-axis:	origin:
$(x,-y)$	$(-x,y)$	$(-x,-y)$
$x^2+(-y)^2=4$	$(-x)^2+y^2=4$	$(-x)^2+(-y)^2=4$
$x^2+y^2=4$ ✓	$x^2+y^2=4$ ✓	$x^2+y^2=4$ ✓

7) 
$m = \frac{-3}{7}$ $\frac{\text{rise}}{\text{run}}$

8) L_1 slope $= \frac{2--8}{-9-7} = \frac{10}{-16} = \frac{-5}{8}$ L_2 slope $= \frac{-4-7}{9--8} = \frac{-11}{17}$

Neither

9) $y - y_1 = m(x - x_1)$

$y - 9 = 3(x + 7)$

$y - 9 = 3x + 21$

$y = 3x + 30$

10) ~~No~~ Yes, x's do not repeat

11) $f(-2.2) = 7(-2.2) - 3$

$= -15.4 - 3$

$= -18.4$

12) $f(p) = \frac{9p}{p-6}$ $p - 6 \neq 0$

$p \neq 6$

D: all Real except $p = 6$

or

$p \neq 6$ or $(-\infty, 6) \cup (6, \infty)$

13) D: all Real numbers
$(-\infty, \infty)$

R: $y = -2$ or $y = -1$
$y \in \{-2, -1\}$

14) Inc: $(-\infty, -2)$

Dec: $(2, \infty)$

Constant: NA

15) $f(x) = x^2 + 4x + 7$

x	y
5	52
7	84

avg rate of change = slope

$m_{avg} = \frac{84-52}{7-5} = \frac{32}{2} = \boxed{16}$

16) (−): reflection over x-axis

(+5): vertical shift up 5

17) $f(x) = -(x+7)^2 - 5$

18) $(-3x^2+7x-7) + (-x^2-x+1) =$

$\boxed{-4x^2+6x-6}$

19) $\left(\frac{f}{g}\right)(x) = \frac{5x^2-9x}{-8-x}$, $x \neq -8$

$-8-x \neq 0$
$-8 \neq x$

20) $g \circ f = (x-5)^2 = x^2 - 10x + 25$

21) $f \circ g(2) = f(g(2)) = f(1) = \boxed{-1}$

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

$\boxed{y^{-1} = -\frac{x-5}{4}}$

23) $x = y^5 - 5$
$x + 5 = y^5$
$\sqrt[5]{x+5} = y$

$\boxed{y^{-1} = \sqrt[5]{x+5}}$