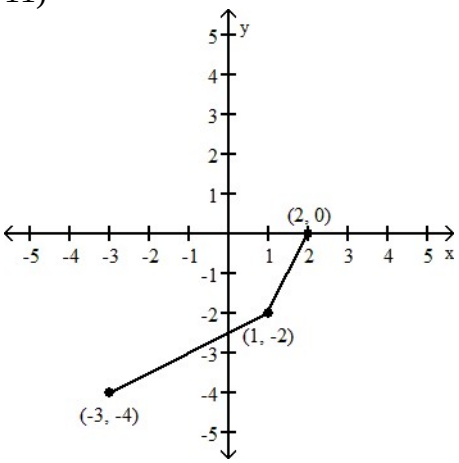
Answer Key Math 1050 Final Exam Version E Fall 2007

1) B
2) D
3) B
4) B
5) B
6) A
7) A
8) B
9) A
10) D
11)



12)
a) 0
b) [-3,3]
c) [0,4]
d) x=-2, x = 2
e) y =4
f) Increasing $(-3,-2)\cup(0,2)$
Decreasing $(-2,0)\cup(2,3)$
Constant: None (N/A)
g) Even

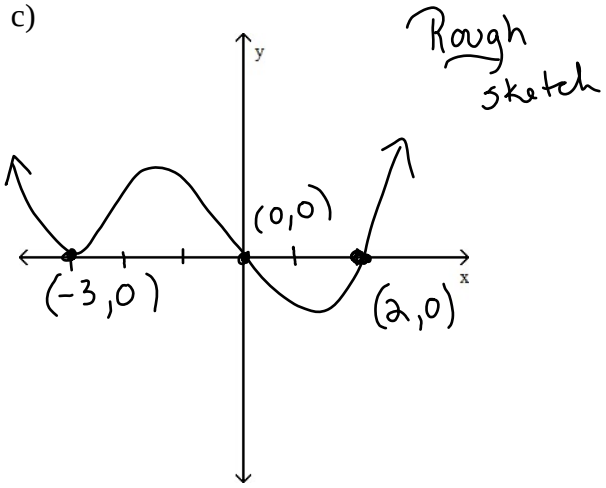
13) $f^{-1}(x)=\dfrac{x}{3x-2}$

Domain of f: $x\neq\frac{1}{3}$
Range of f: $y\neq\frac{2}{3}$
Domain of f^{-1}: $x\neq\frac{2}{3}$
Range of f^{-1}: $y\neq\frac{1}{3}$

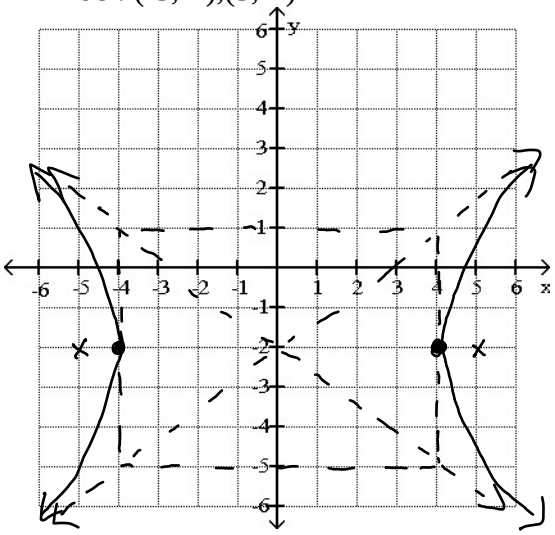
14) x = 9
15)

Zero	Multiplicity	Touch/Cross
-3	2	Touch
0	1	Cross
2	3	Cross

b) $y=x^6$
c)

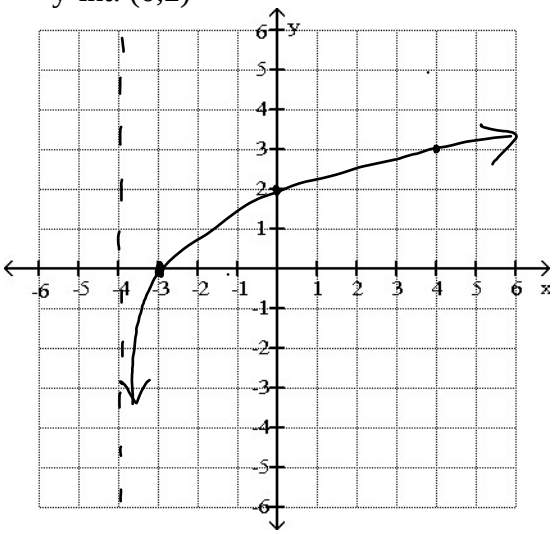


16) Student's work, x = -2
17) Center: (0,-2)
Vertices: (-4,-2),(4,-2)
Foci: (-5,-2),(5,-2)



18) 4850

19) Domain: $(-4,\infty)$
Range: $(-\infty,\infty)$
V. A.: x = -4
x-int.: (-3,0)
y-int: (0,2)



20) vertex: (-9,3)
Focus: $(-\frac{35}{4},3)$

21) x = -27 or x = -64

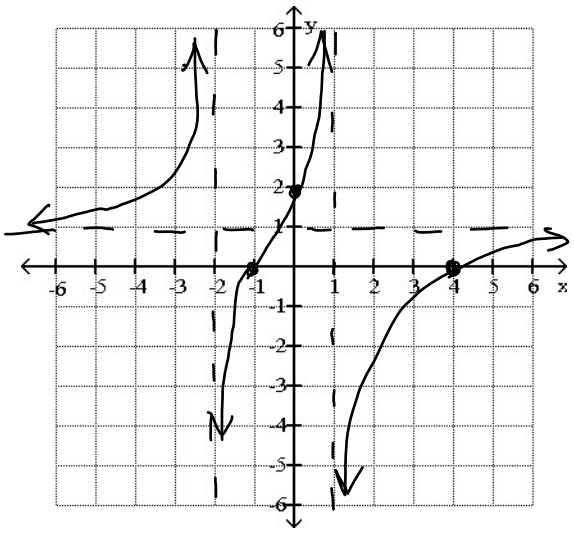
22) 15.3 yr

23) $(f\circ g)(x)=\dfrac{x-3}{x+2}$
Domain: $x\neq -2,\ x\neq 3$

24) $(-\infty,0]\cup(3,\infty)$

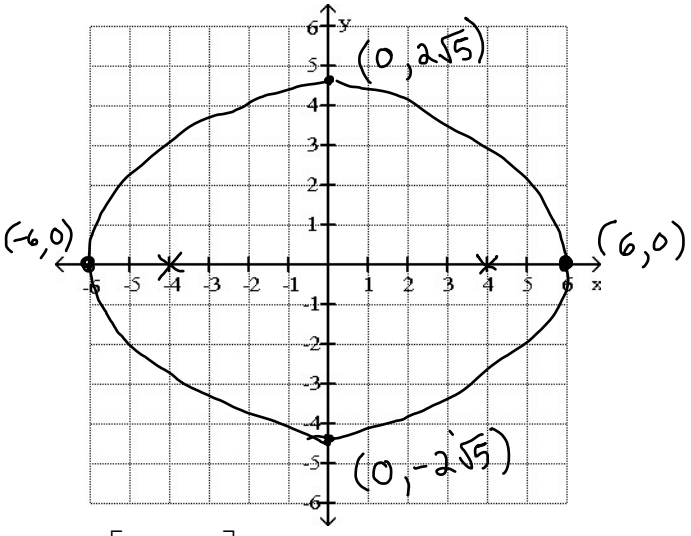
25) $\begin{bmatrix} -4 & 8 \\ 3 & 10 \end{bmatrix}$

26) Domain: $x\neq -2,\ x\neq 1$
V. A. : x = -2, x = 1
x – int: (4,0), (-1,0)
y – int: (0,2)
H. A. : y = 1



27) x = 11, y = 8, z = -4

28) $\dfrac{x^2}{36}+\dfrac{y^2}{20}=1$



29) $\begin{bmatrix} -2 & 1 \\ 5 & -2 \end{bmatrix}$

30) $\dfrac{3}{x-1}+\dfrac{2}{x+5}$