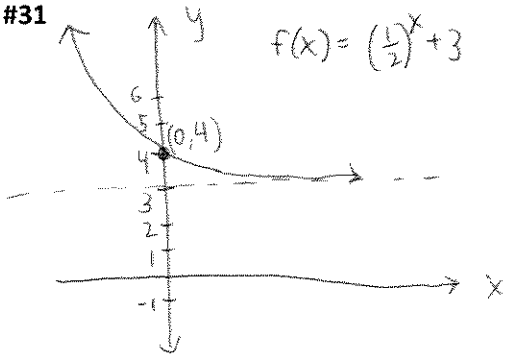
Name MS. D

May 10, 2016

GREEN REVIEW HW #6 : Test 2 #31, 32 and Test 3 #4-7,9-11

Test 2 #31



$f(x) = \left(\frac{1}{2}\right)^x + 3$

Y-intercept: (0,4)

No x-intercepts

End behavior: As $x \to -\infty, f(x) \to \infty$ and as $x \to \infty, f(x) \to 3$

Test 2 #32

Complex/Imaginary Roots

$x^2 - 6x + k = 0$

$x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$

$b^2 - 4ac < 0$

$(-6)^2 - 4(1)(k) < 0$

$36 - 4k < 0$

$36 < 4k$

$9 < k$

$\boxed{k > 9}$

Test 3 #4

$(8x^4y^6)^{1/3} = \sqrt[3]{8x^4y^6}$

$x^3 \cdot x$

$= \sqrt[3]{8x^3 \times y^6}$ perfect cubes

$= 2xy^2\sqrt[3]{x}$

CHOICE (2)

Test 3 #5

$\left(\sqrt{x-1}\right)^2 = (x-7)^2$

$x - 1 = x^2 - 14x + 49$

$0 = x^2 - 15x + 50$

$0 = (x-10)(x-5)$

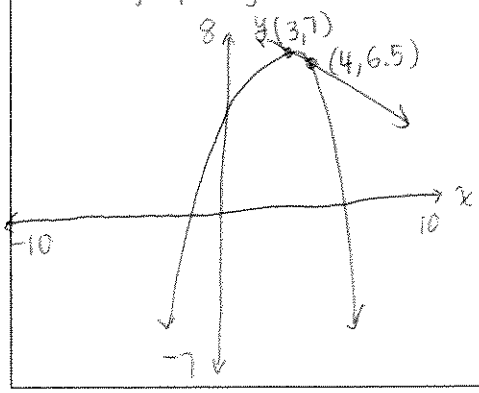
$x = 10$	$x = 5$ Reject
$\sqrt{10-1} = 10-7$	$\sqrt{5-1} = 5-7$
$3 = 3$ ✓	$2 = -2$ ✗

$(x-7)(x-7) = x^2 - 14x + 49$

CHOICE (4)

Test 3 #6

on graphing calculator



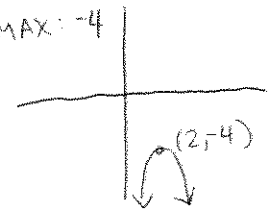
CHOICE (3)

Test 3 # 7

(1) $x^2+y=4x-8$

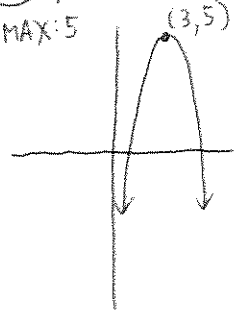
$y=-x^2+4x-8$

MAX: -4



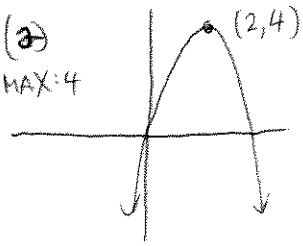
(3) $y=-(x-3)^2+5$

MAX: 5



(2)

MAX: 4



(4)

x	y
3	-1
4	2
5	3
6	2
7	-1

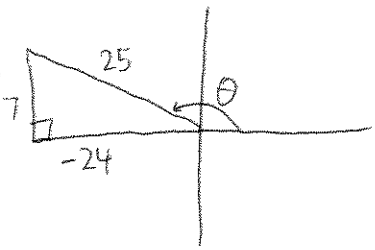
MAX: 3

CHOICE (3)

Test 3 #9

$\sin\theta=\frac{7}{25}$

$\cos\theta=-\frac{24}{25}$



$\tan\theta=\frac{OPP}{ADJ}$ OR $\tan\theta=\frac{\sin\theta}{\cos\theta}$

$=\frac{7}{-24}$

$\tan\theta=\frac{\frac{7}{25}}{-\frac{24}{25}}$

$=\frac{7}{-24}$

CHOICE (2)

Test 3 #10

$P(x)=(x^2-5)(x^2+4)(x^2+10)(2x+6)$

x^2-5	x^2+4	x^2+10	$2x+6$
$x^2=5$	$x^2=-4$	$x^2=-10$	$2x=-6$
$x=\pm\sqrt{5}$	$x=\pm 2i$	$x=\pm\sqrt{10}$	$x=-3$
2 Irrational	2 complex	2 complex	1 Rational

$x=-i\sqrt{10}$

4 complex Roots

CHOICE (4)

Test 3 #11

Elimination Method

$x+2y-z=3$ (1)

$+\ 2x+y+z=0$ (2)

$3x+3y=3$

$x+2y-z=3$

$+\ x+2y+z=5$

$2x+4y=8$

$-2(3x+3y=3) \rightarrow -6x-6y=-6$

$3(2x+4y=8) \rightarrow +6x+12y=24$

$6y=18$

$y=3$

$3x+3y=3$

$3x+3(3)=3$

$3x+9=3$

$3x=-6$

$x=-2$

$x+2y-z=3$

$-2+2(3)-z=3$

$-2+6-z=3$

$4-z=3$

$z=1$

CHOICE (3)