Starter: Find the Domain

1) $y = \sqrt{x-3} - 1$

2) $y = \frac{3}{4}\sqrt{x-3} + 1$

3) $f(x) = \frac{-x^2 - x + 12}{x^2 + 2x - 3}$

4) $f(x) = \frac{x^3 - 2x^2 - 3x}{-4x^2 + 36}$

Nov 2-2:10 PM

Starter

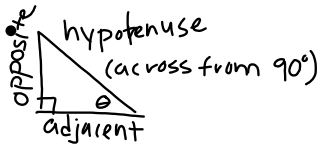
Calendar Math

4.1 Homework Questions

4.2 Transformations

Nov 2-2:34 PM

Calendar Math



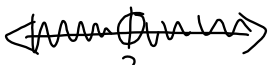
Pyth Thm:
$a^2 + b^2 = c^2$
$(leg^2 + leg^2) = hyp^2$

Nov 2-2:34 PM

Homework Questions

(13) $f(x) = \frac{x}{x-3}$

$x - 3 \neq 0$
$+3 \quad +3$
$x \neq 3$



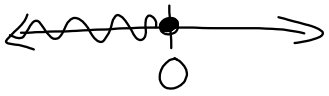
$D: (-\infty, 3) \cup (3, \infty)$

Nov 2-8:08 AM

(10) $f(x) = \sqrt{-\frac{1}{2}x}$

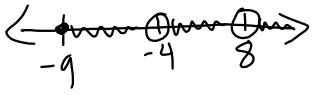
$-2 \cdot -\frac{1}{2}x \geq 0 \cdot -2$
$x \leq 0$

$D: (-\infty, 0]$



Nov 3-10:02 AM

(19) $\frac{\sqrt{x+9}}{(x+4)(x-8)}$



$x + 9 \geq 0$
$-9 \quad -9$
$x \geq -9$

$x + 4 \neq 0$
$-4 \quad -4$
$x \neq -4$

$x - 8 \neq 0$
$+8 \quad +8$
$x \neq 8$

$D: [-9, -4) \cup (-4, 8) \cup (8, \infty)$

Nov 3-10:04 AM

Transformations

$y = a(b(x + c)^2) + d + e$

a Reflects about x if negative

b Shrink/Stretch
- if smaller than 1 will shrink
- if greater than 1 will stretch

vertical

c Reflects about y if negative # horizontal shift

d Moves left or right (opp. of what you think)

e Moves up or down +/- # (x+1) left (x-1) right

+ up

- down

Nov 2-8:11 AM

f is any function

$g(x)=f(x-2)+3$

right 2

up 3

$g(x)=-4/3(x+1)^2-7$

reflects on X

Stretch 4/3

left 1

down 7

$g(x)=2/5f(-x)-5$

shrink 2/5

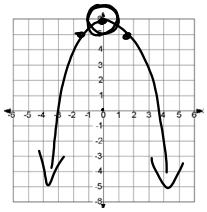
reflects the y

down 5

Nov 2-8:24 AM

Graph the function. Identify the vertex or point of origin, the domain and the range, and the symmetry.

$f(x)=-x^2+6$ ex 1



reflect X

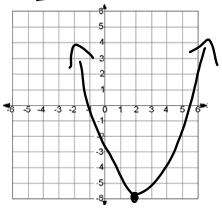
UP 6

V: (0,6) R: $(-\infty, 6]$

D: $(-\infty, \infty)$ Sym: even

Nov 2-8:32 AM

$f(x)=(x-2)^2-6$ ex 2



V: (2,-6)

D: $(-\infty, \infty)$

R: $[-6, \infty)$

Sym: neither

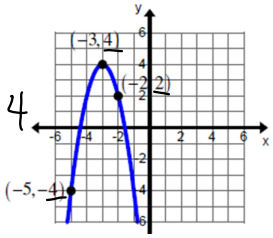
Nov 2-8:37 AM

Determine the transformations that were used to change the given parent function to the function that is graphed. Write the equation of the graphed function.

ex 3

$f(x)=x^2$

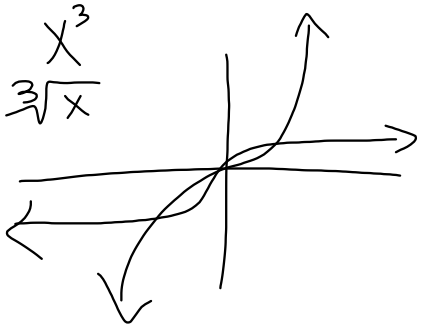
$g(x)=-2(x+3)^2+4$



Nov 2-8:38 AM

x^3

$\sqrt[3]{x}$

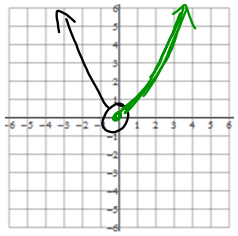


Nov 3-10:26 AM

Graphed the piecewise function.

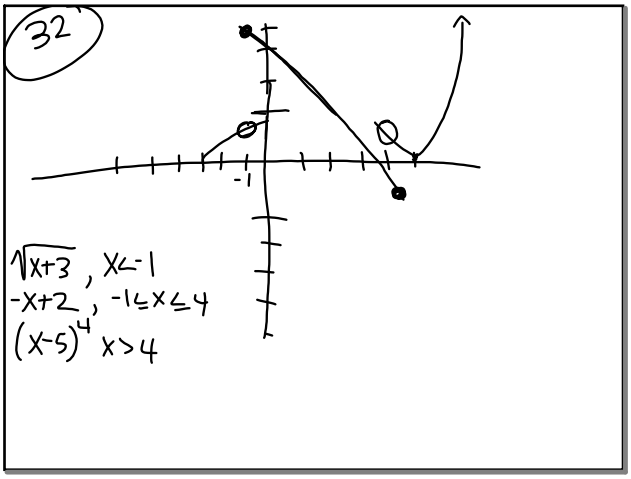
$$\begin{cases} x^2 - 4x, x \le 0 \\ x^2, x \ge 0 \end{cases}$$

ex 5
#28



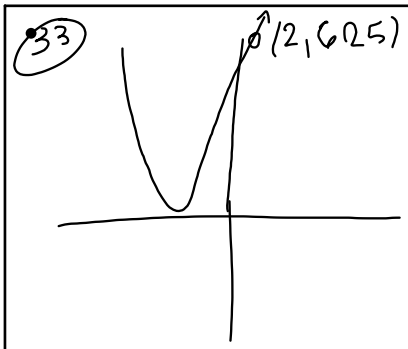
Nov 2-8:41 AM

32



Nov 3-10:31 AM

33



Nov 3-10:39 AM