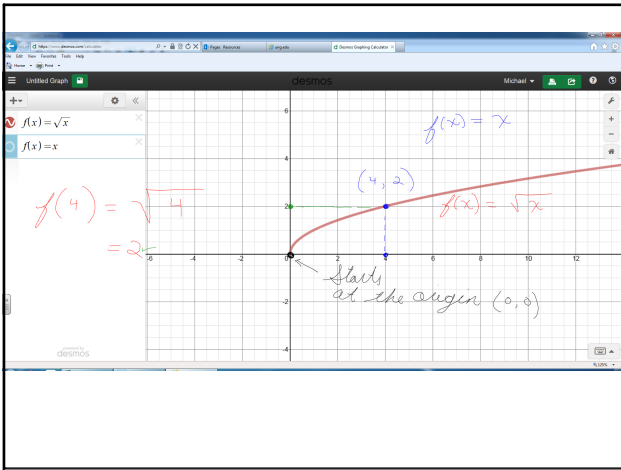


March 3, 2015
 * Quiz #6 - Today
 • 3.4 Word Problems
 • 13.1 Systems

Mar 3-9:52 AM

Radicals
 $\sqrt[n]{a}$
 Index of the Radical
 Radical Symbol
 Radicand
 $f(x) = \sqrt{x}$
 Square Root Radical

Mar 3-10:03 AM



Mar 3-10:15 AM

$f(x) = \sqrt{x}$ Parent Square root function
 Domain: $[0, \infty)$
 Range: $[0, \infty)$

Mar 3-10:15 AM

Square Roots
 $\sqrt{0} = 0; 0^2 = 0 \cdot 0 = 0$
 $\sqrt{1} = 1; 1^2 = 1 \cdot 1 = 1$
 $\sqrt{2} = \text{Irrational} (?)^2 = 2$
 $\sqrt{3} = \text{Irrational} (?)^2 = 3$
 $\sqrt{4} = 2; 2^2 = 4$
 $\sqrt{5} = \text{Irrational} (?)^2 = 5$
 $\sqrt{6} = \text{Irrational}$
 $\sqrt{7} = \text{Irrational}$
 $\sqrt{8} = \text{Irrational}$
 $\sqrt{9} = 3; (3)^2 = 9$
 \vdots
 $\sqrt{16} = 4; (4)^2 = 16$

Mar 3-10:17 AM

$\sqrt{a} = b$
 Because $b^2 = a$
 $\sqrt{25} = 5; \text{ because } 5^2 = 25$
 Perfect Square Root

x^1	x^2
0	0
1	1
2	4
3	9
4	16
5	25
6	36
7	49
8	64
9	81
10	100

← Perfect Square Root

Mar 3-10:26 AM

$\sqrt{a} \rightarrow$ Rational
 or
 $\sqrt{a} \rightarrow$ Irrational

Mar 3-10:31 AM

*Perfect Square Roots
 of Variables*
 $\sqrt{36} = 6; 6^2 = 36$
 $\sqrt{x^2} = \sqrt{\boxed{x \cdot x}}$
*How many groups
 of 2 x's do you have?*
 $= x$
 $\sqrt{x^4} = \sqrt{\boxed{x \cdot x} \boxed{x \cdot x}}$
 $= x^2$
 $\sqrt{x^6} = \sqrt{\boxed{x \cdot x} \boxed{x \cdot x} \boxed{x \cdot x}}$
 $= x^3$

Mar 3-10:32 AM

$\sqrt{x^2} = \sqrt{(x^1)^2}$
 $= x^1$
 $\sqrt{x^4} = \sqrt{(x^2)^2}$
 $= x^2$
 $\sqrt{x^5} = \sqrt{(x^2)^2 \cdot x^1}$
 $= x \sqrt{x}$
 $\sqrt{x^9} = \sqrt{(x^2)^2 \cdot x^1}$
 $= \sqrt{x^8 \cdot x^1}$
 $= x^4 \sqrt{x}$

Mar 3-10:38 AM