Algebra 2

Unit 3.2 Function Types and General Form

- Identify functions based on their type (again)
- Learn the general form for all function types

Identify the following functions as one of the types listed : Linear, Quadratic, Cubic, Square Root, Cube Root, Logarithmic, and Exponential.

$2y+3x=-8$

linear

$y=\frac{1}{2}(x-1)^2+9$

quadratic

$y=6\log_5(x-3)+1$

log.

$y=-\sqrt{x}+2$

square root

. $y=-4(7)^{x-8}+3$

Exponential

$y=-3x^3-10$

Cubic

$y=-\frac{4}{5}\sqrt[3]{x+2}$

cube Root

All common function types (like the ones on the previous slide) have a general form. The letters in the general form indicate specific transformations that we will discuss in the next lesson. Let's look at each general form...

General Forms:

Linear: $y = ax + k$

Quadratic: $y = a(x-h)^2 + k$

Cubic: $y = a(x-h)^3 + k$

Square Root: $y = a\sqrt{x-h} + k$

Cube Root: $y = a\sqrt[3]{x-h} + k$

Logarithmic: $y = a\log_b(x-h) + k$

Exponential: $y = a(b)^{x-h} + k$

Hopefully you notice that all of these look similar. The only difference in them is the function operation that makes them special. For instance, the square root has a square root sign and the quadratic has a square symbol, even though you still have "x-h" in both. Each of these letters does the same thing. If you memorize what k does in one function you will know what it does in all the others as well.

Homework:

U3.2 Worksheet (DUE BY END OF CLASS)

No QA over this! No Work day over this lesson!