Parent Functions Homework

1. State the name of the parent function for each.

a. $f(x) = -5(x+1)^2 + 9$ b. $f(x) = -\sqrt{x} + 5$ c. $f(x) = 2-|2x + 1| - 9$

d. $y = [x]$ e. $y = 1/(3x)^2$ f. $f(x) = -7$

2. What can you do if you happen to forget what the graph of a certain function looks like?

3. Name each function. Then sketch a graph, and state the domain and range of each.

a. $y = \ln(x)$ b. $f(x) = x$ c. $y = 1/x$

4. Write any function that is in the family of each parent function.

a. Exponential b. Cubic c. Rational (Inverse, Even)

d. Constant e. Linear f. Absolute Value

5. Sketch a graph of each parent function:

Exponential: Logarithmic:

6. On the following page, Each student was asked to write something he learned about parent functions. Evaluate the validity of each student's claim. ONE of the student's claims is incorrect. We all make mistakes, but can learn from them! Help these students to understand parent functions by… 1. Explaining whether the claim is incorrect, and 2. IF INCORRECT… Drawing a graph of a 2 counter-examples to refute the claim.

	1. Dear Bob,	2. **IF Incorrect:** Here are 2 counter-examples that show why your claim is false.
The range of the parent square root function in the real number system will never contain negative numbers! **Bob**	Your idea is <u>correct</u> / <u>incorrect</u> because…	
The domain and range of all rational functions will always be (-infinity, infinity)! **Kevin**	1. Dear Kevin, Your idea is <u>correct</u> / <u>incorrect</u> because…	2. **IF Incorrect:** Here are 2 counter-examples that show why your claim is false.
The domain of all absolute value functions will contain every number from negative infinity to positive infinity! **Stuart**	1. Dear Stuart, Your idea is <u>correct</u> / <u>incorrect</u> because…	2. **IF Incorrect:** Here are 2 counter-examples that show why your claim is false.