Lesson 1.2 Practice: Parent Functions and Transformations

School Launch · Algebra II · Unit 1: Functions and Their Graphs · Worksheet A

Calculator for decimals

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

1. Describe how $g(x) = |x + 4| - 2$ is obtained from the parent absolute value function $f(x) = |x|$, and give the image of the parent's key point $(0, 0)$. EASY

2. Describe how $g(x) = \sqrt{x - 6} + 1$ is obtained from the parent square root function $f(x) = \sqrt{x}$, and give the image of the parent's key point $(0, 0)$. EASY

3. Describe how $g(x) = |x + 6| - 2$ is obtained from the parent absolute value function $f(x) = |x|$, and give the image of the parent's key point $(0, 0)$. EASY

4. Describe how $g(x) = -2(x + 1)^2 + 4$ is obtained from the parent quadratic function $f(x) = x^2$, and give the image of the parent's key point $(0, 0)$. MEDIUM

5. Describe how $g(x) = (x - 2)^2 - 4$ is obtained from the parent quadratic function $f(x) = x^2$, and give the image of the parent's key point $(0, 0)$. MEDIUM

6. Describe how $g(x) = \sqrt{x + 6} - 5$ is obtained from the parent square root function $f(x) = \sqrt{x}$, and give the image of the parent's key point $(0, 0)$. MEDIUM

7. Describe how $g(x) = 3|x + 2| - 6$ is obtained from the parent absolute value function $f(x) = |x|$, and give the image of the parent's key point $(0, 0)$. MEDIUM

8. Describe how $g(x) = -(x - 4)^3 + 6$ is obtained from the parent cubic function $f(x) = x^3$, and give the image of the parent's key point $(0, 0)$. HARD

9. Describe how $g(x) = -(x - 3)^2 + 3$ is obtained from the parent quadratic function $f(x) = x^2$, and give the image of the parent's key point $(0, 0)$. HARD

10. Describe how $g(x) = -2\sqrt{x + 1} + 2$ is obtained from the parent square root function $f(x) = \sqrt{x}$, and give the image of the parent's key point $(0, 0)$. HARD