

Algebra II
Exponents #7

Name _____

Without your calculator sketch the following. Identify the domain and range of the function.

1. $g(x) = -\sqrt{x} + 2$

2. $f(x) = -\sqrt[3]{x} + 1$

3. $h(x) = (5x)^{\frac{1}{2}} - 2$

4. $g(x) = 2(x-3)^{\frac{1}{3}}$

Describe the transformation of f represented by g.

5. $f(x) = \sqrt{x}, g(x) = 4\sqrt{x-2}$

6. $f(x) = \sqrt{x}, g(x) = -\sqrt{x} - 7$

7. $f(x) = \sqrt[3]{x}, g(x) = \sqrt[3]{x-5} - 1$

8. $f(x) = \sqrt[3]{x}, g(x) = -\frac{1}{2}\sqrt[3]{x+1} - 3$

Use a graphing calculator to graph the function. Then identify the domain and range of the function.

9. $g(x) = \sqrt[3]{2x^2 - 3x}$

10. $g(x) = \sqrt{\frac{1}{3}x^2 - x + 2}$

Rationalize the denominator of each expression.

11. $\frac{\sqrt{x}}{\sqrt{2}}$

12. $\frac{\sqrt{3xy^2}}{\sqrt{5xy^3}}$

13. $\frac{\sqrt{5x^4y}}{\sqrt{2x^2y^3}}$

14. $\sqrt[3]{\frac{5}{3x}}$

15. $\frac{\sqrt[4]{2}}{\sqrt[4]{5}}$

16. $\frac{\sqrt[3]{12ab^3c^2}}{\sqrt[3]{10a^3bc}}$