Pre-Calc AB Worksheet #56 : Answers

1. As the odd exponent n gets larger, the graph flattens out in the window $[-1, 1]$ by $[-1, 1]$.

2. As the even exponent n gets larger, the graph flattens out in the window $[-1, 1]$ by $[-1, 1]$.

3a. Polynomial

3b. Polynomial

3c. No. Polynomials do not have negative exponents.

3d. No. Polynomials must be defined for all real numbers.

3e. Polynomial

3f. No. Polynomials can't have fractional exponents.

4. Two x-intercepts, $(2.10, 0)$ and $(2.15, 0)$

5a. End behavior: $\uparrow\downarrow$

5b. End behavior: $\downarrow\downarrow$

5c. End behavior: $\downarrow\uparrow$

6. A. $f(x)$ B. $g(x)$ C. $h(x)$ D. $k(x)$

7a. False. A degree 3 polynomial can have at most 3 zeros.

7b. True. Every odd-degree polynomial has at least one real zero.

7c. True. Continuous with end behavior $\downarrow\downarrow$

7d. True. The smallest value of $f(x)$ is 5.

7e. True. The x-intercept has multiplicity 3.

7f. False. See example 7d.