

Name: _____

Analyzing Graphs of Functions

1) Describe these transformations with the Absolute Value Function $f(x) = |x|$.

- 1) $g(x) = -|x|$
- 2) $j(x) = 3|x|$
- 3) $k(x) = |x + 4|$
- 4) $r(x) = |x| - 1$
- 5) $s(x) = -\frac{1}{2}|x|$
- 6) $t(x) = |x| + 2$

2) Compare the graph of the function with the graph of $f(x) = \sqrt{x}$

- 1) $y = -\sqrt{x} - 1$
- 2) $y = \sqrt{x} + 2$
- 3) $y = \sqrt{x - 2}$
- 4) $y = 2\sqrt{x}$
- 5) $y = \sqrt{x} + 2$
- 6) $y = \sqrt{x + 4}$
- 7) $y = \sqrt{-x + 3}$

3) Compare the graph of the function with the graph of $f(x) = |x|$

- 1) $y = |x + 5|$
- 2) $y = |x| - 3$
- 3) $y = -|x|$
- 4) $y = |-x| + 5$
- 5) $y = |x - 1| - 2$

4) Compare the graph of the function with the graph of $f(x) = x^3$

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