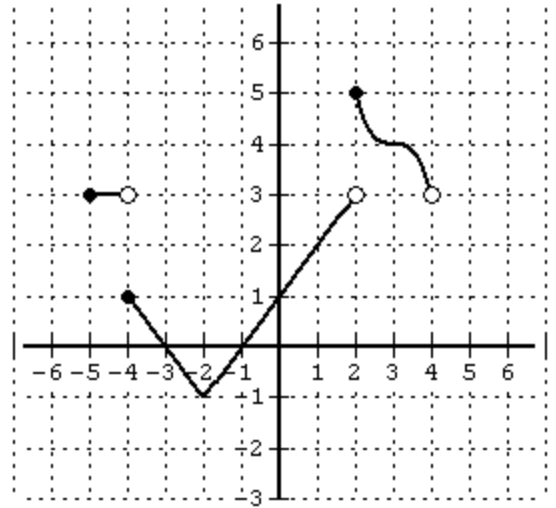


1) Use the graph to the right to answer questions A – S.

- A) Is the graph a function? Yes / No
- B) Domain:
- C) Range:
- D) x -intercept(s):
- E) y -intercept:
- F) Absolute Maximum value:
- G) Absolute Minimum value:



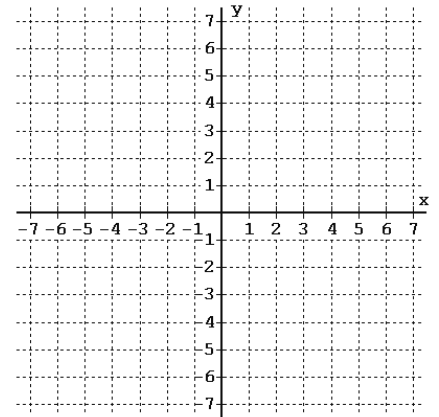
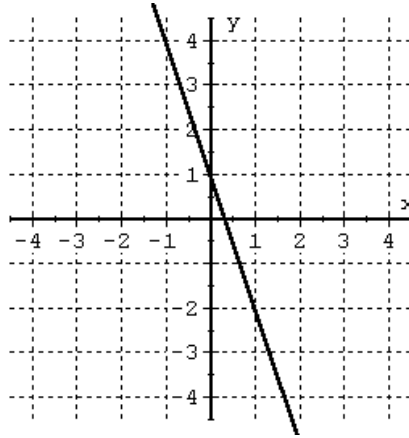
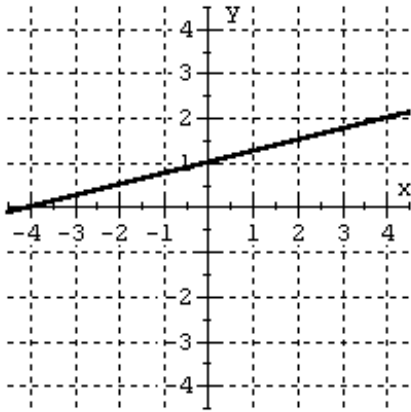
For items H – L, State the corresponding x-values using Interval Notation.

- H) Where is the graph increasing?
 - I) Where is the graph decreasing?
 - J) Where is the graph constant?
 - K) Where is $f(x) > 0$?
 - L) Where is $f(x) \leq 0$?
-
- M) How many times does the line $y = 1$ intersect the graph?
 - N) Find $f(3)$
 - O) Find $f(-4)$
 - P) Find $f(2)$
 - Q) Where does $f(x) = 0$? List the corresponding value(s) of x .
 - R) Where does $f(x) = 4$? List the corresponding value(s) of x .

S) Find a piecewise-defined function for the function graphed above:

$$f(x) = \left\{ \begin{array}{l} \text{for} \\ \text{for} \\ \text{for} \end{array} \right.$$

Find an equation of each of the following Lines

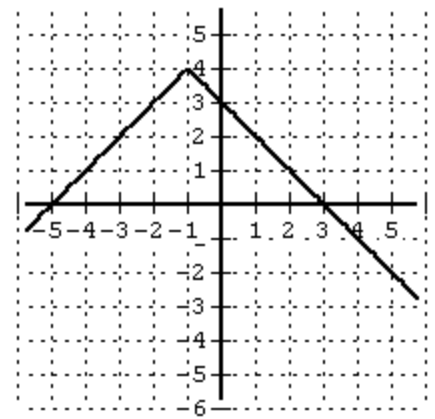
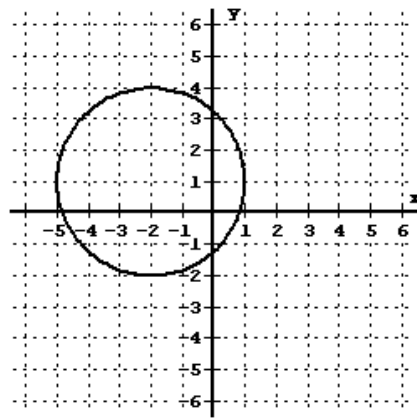
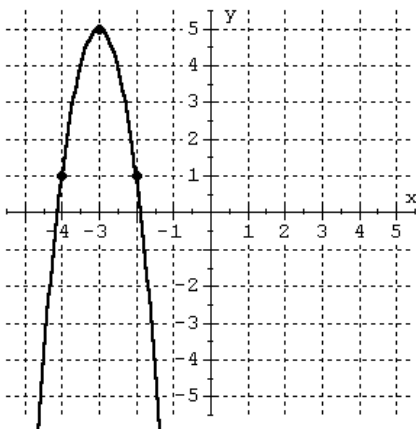


2) _____

3) _____

4) Graph $(x - 2)^2 + (y + 3)^2 = 16$

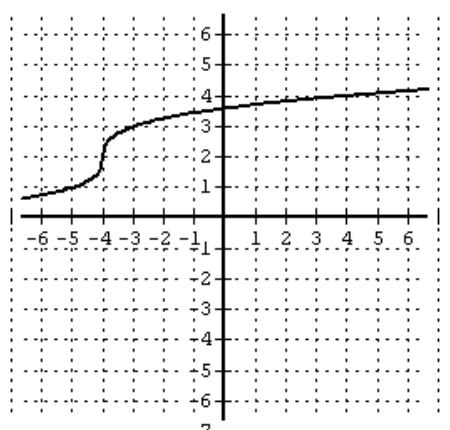
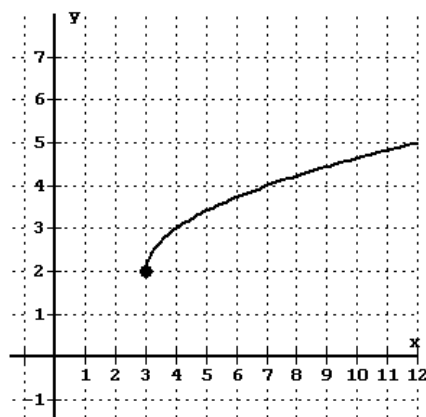
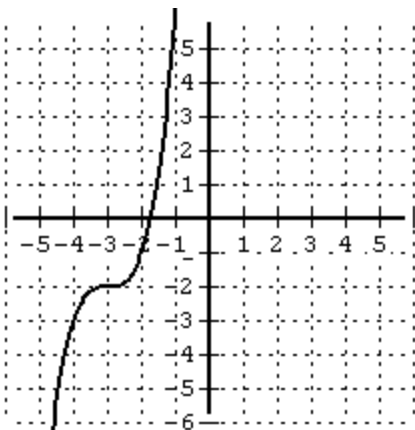
Find an equation of each of the following transformed parent functions



5) _____

6) _____

7) _____



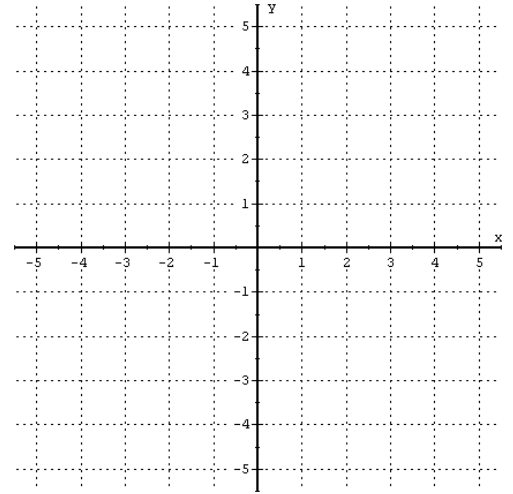
8) _____

9) _____

10) _____

- 11) Is $f(x) = x^6 + 3$ symmetric about the y-axis? A) _____
- B) Is $f(x) = \sqrt[3]{x}$ symmetric about the origin? B) _____
- C) Is $f(x) = x^2 - 1$ symmetric about the x-axis? C) _____
- D) Is $f(x) = (x - 3)^2$ an even function? D) _____
- E) Is $f(x) = x^3 - x$ an odd function? E) _____

12) Graph $f(x) = \begin{cases} x^2 - 4 & \text{for } -3 < x \leq 1 \\ x + 1 & \text{for } 1 < x \leq 4 \end{cases}$



13) Let $f(x) = x^2 + 3x + 5$ and $g(x) = 3x - 2$. Find the following:

- A) $2f(1) + g(4)$
- B) $f(g(2))$
- C) $(g \circ f)(0)$
- D) $(f \circ g)(x)$

14) Difference Quotient = $\frac{f(x+h) - f(x)}{h}$

Find the Difference Quotient of $f(x) = x^2 + 3$