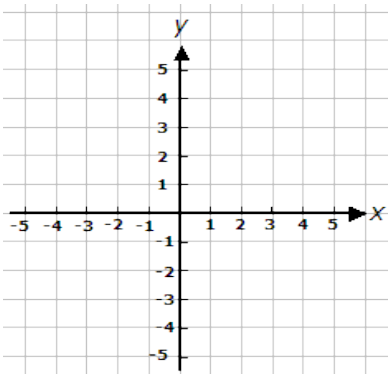
Secondary Math 2

3.5 Symmetry and End Behavior

Name: _____ Period _____

Do the following.
A. Graph.
B. Determine if the function is symmetrical to the y-axis(even), origin(odd) or neither.
C. Find the end behavior.

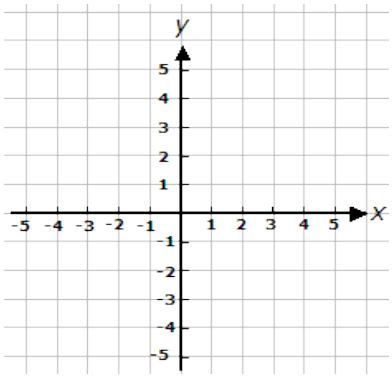
1. $f(x) = x^2 - 3$



Sym:

End Behavior:

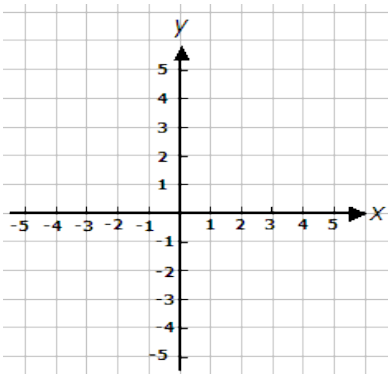
2. $f(x) = \sqrt[3]{x+2} - 1$



Sym:

End Behavior:

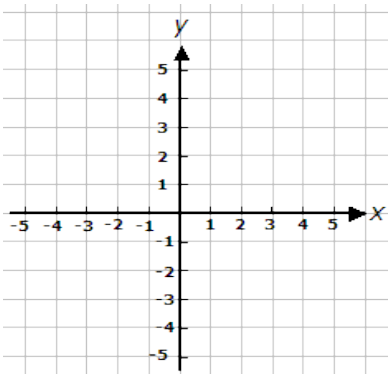
3. $f(x) = |x| - 3$



Sym:

End Behavior:

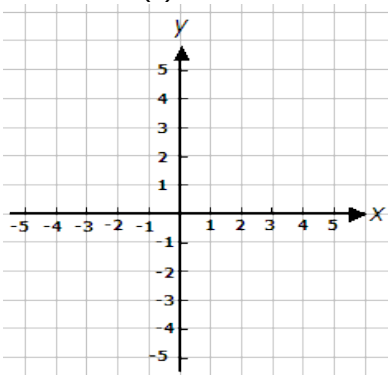
4. $f(x) = -x^3$



Sym:

End Behavior:

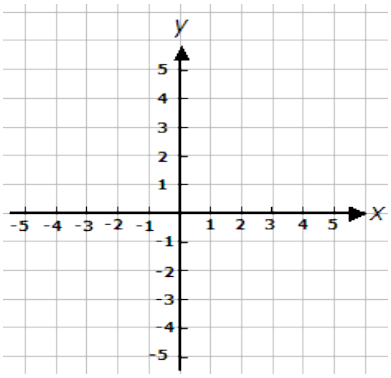
5. $f(x) = 3x^5$



Sym:

End Behavior:

6. $f(x) = x^2 - 5$



Sym:

End Behavior:

Determine the end behavior of the following functions.

7. $f(x) = x^7 + x^4 + 6$

8. $f(x) = 1/4x^2 + 2x + 3$

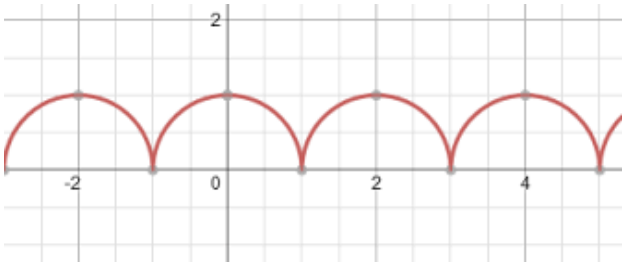
9. $f(x) = -x^2 + 7x + 12$

10. $f(x) = -x^3 + 2$

Periodicity refers to a function with a repeating pattern. The period is measured only the x-axis from any point on the function to the x-coordinate where the graph starts to repeat that pattern.

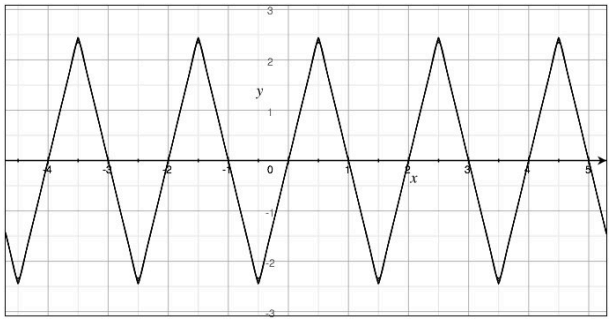
State the period of the function.

11.



Period:

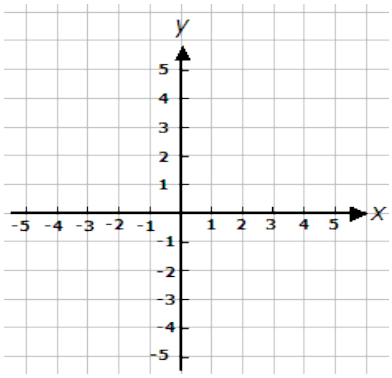
12.



Period:

Find the domain and range.

13. $f(x) = |x - 4| + 1$

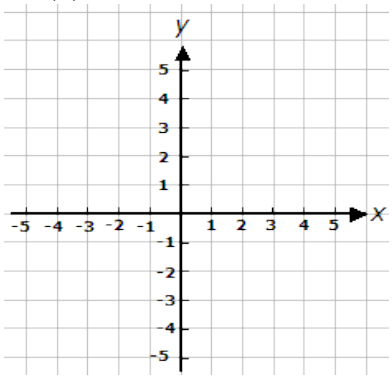


D:

R:

Find the x- and y-intercepts.

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



x:

y:

Find the domain and range.

15. $f(x) = |4x - 2|$

D:

R:

Find the x- and y-intercepts.

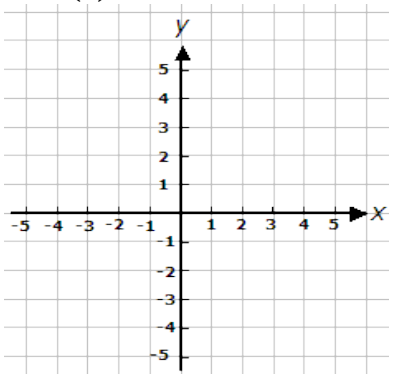
16. $f(x) = \sqrt[3]{x+3}$

x:

y:

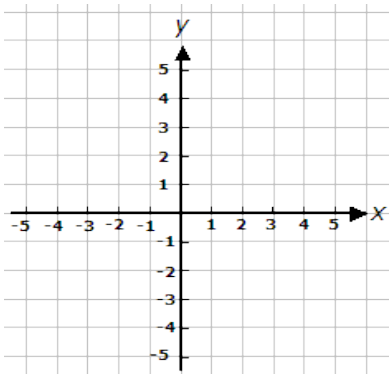
List the interval where the function is increasing or decreasing and positive or negative.

17. $f(x) = x^2 - x - 12$



D:
I:
P:
N:

18. $f(x) = -x^2 - 8x - 12$



D:
I:
P:
N:

Determine if the following is a linear, quadratic or exponential function.

19. $f(x) = -4x + 7$

20. $7^x - 4$

21. $f(x) = x^2 - 7x + 12$

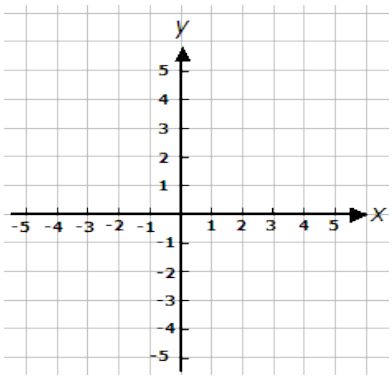
Simplify the following.

22. $(2 - 3x^2 + 3x) + (2x - 4x) - (7x^2 + 3x - 8)$

23. $(x^2 - 7x + 3)(4x^2 - 5)$

Sketch a graph from the equation given.

24. $f(x) = (x - 4)^2 - 7$



25. $f(x) = -|x + 2| - 4$