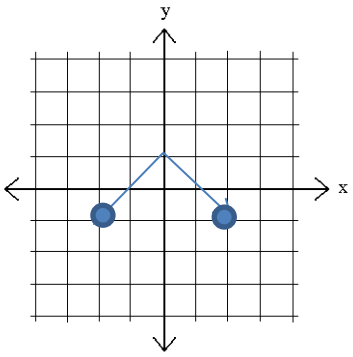
Properties of Functions Review

Name:_____

1.



Domain: _____

Range: _____

Absolute Max: _____ Absolute Min: _____

Relative Max(s): _____ Relative Min(s): _____

y-intercept(s): _____

x-intercept(s): _____

Increase Interval:_____

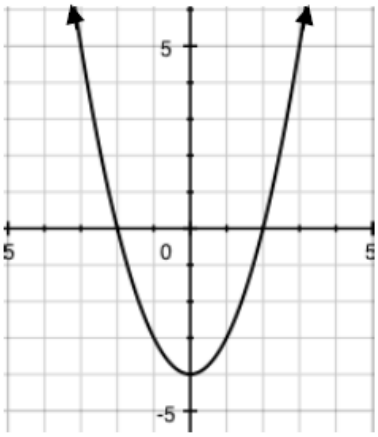
Decrease Interval:_____

2f(2) – f(0)_____

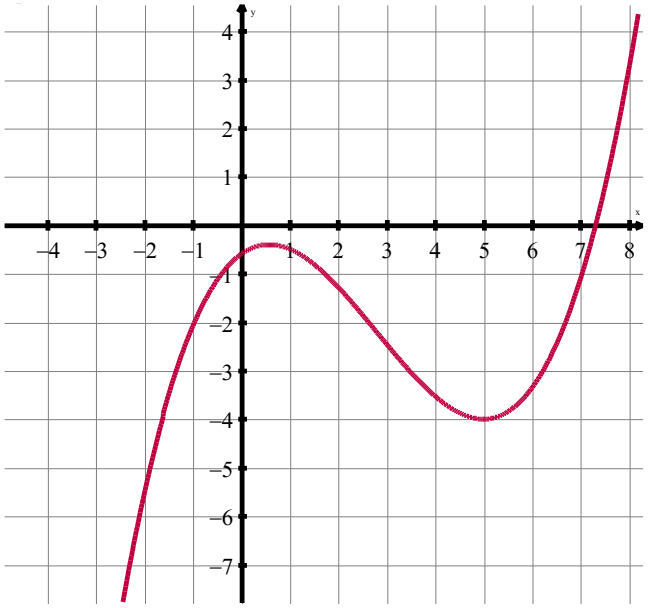
Apply f(x-1)+2 to draw a new graph.

2. What is the effect on the graph if the transformation $-\frac{2}{3}f(x+2)$ is applied to the function f(x)?

3. The graph of $f(x) = x^2 - 4$ is shown. If a transformation of -f(x – 3) is applied to the function, what are the x-intercepts and y intercepts of the new function?



4. Find the following characteristics for the cubic function shown below using the restricted domain [2, 7].



Range: _____

Absolute Max: _____ Absolute Min: _____

Relative Max(s): _____ Relative Min(s): _____

y-intercept(s): _____

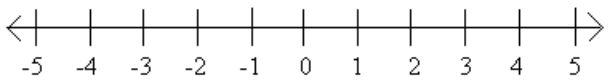
x-intercept(s): _____

Increasing Interval:_____

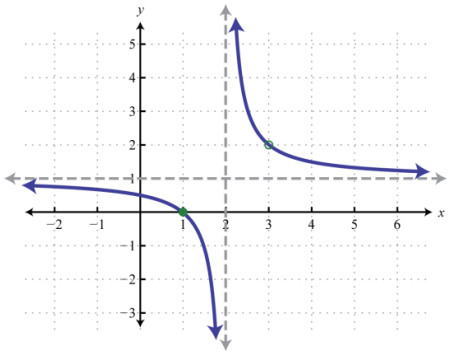
Decreasing Interval:_____

f(5)+2f(7)_____

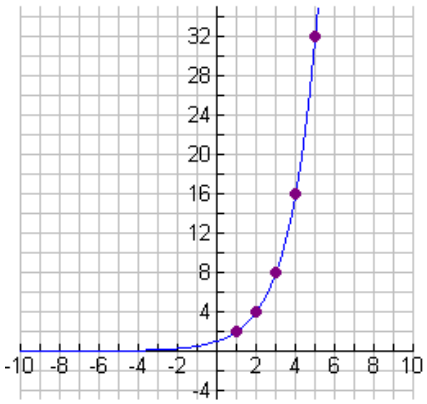
5. Graph $\{x \mid -4 < x \leq 2\}$ on the number line below.



6. What are the intercepts of the following graph? What are the domain and range of the graph? Use interval notation.



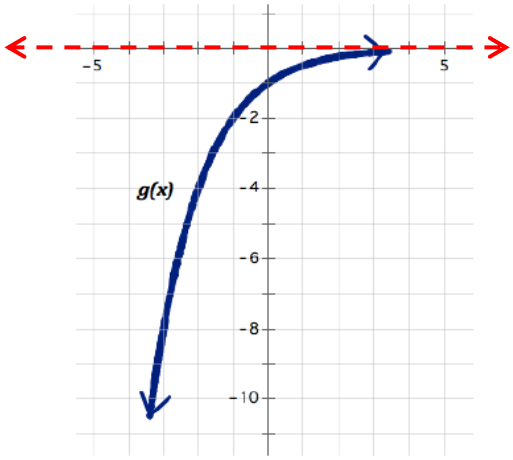
7. For the following function, if a transformation of f(x)+2 was applied, how would the range and y intercept be affected?



8. Given f(x)=-3x+4 and h(x)= $\frac{3}{x-5}$. Evaluate:

a. f(7) b. h(-6) c. h(f(x)) d. f(a+b) e. f(x)=30

9.



Domain: _____

Range: _____

End Behavior: _____

_____

y-intercept(s): _____

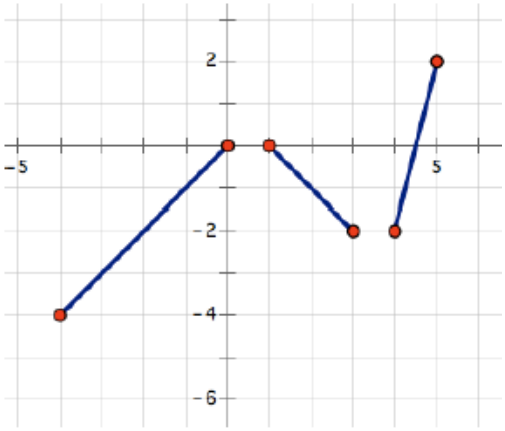
x-intercept(s): _____

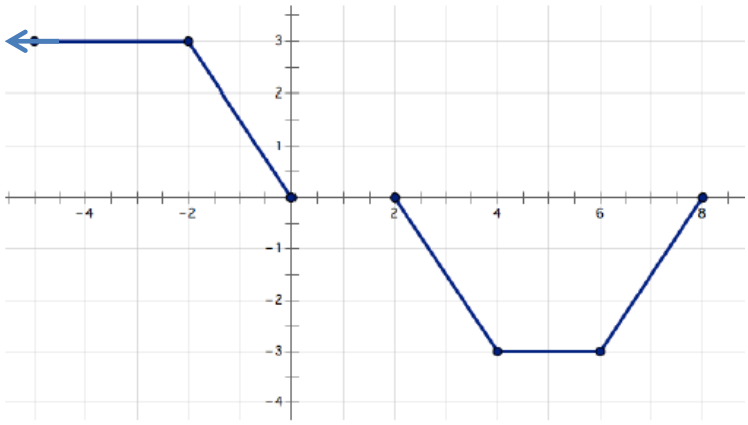
Increase Interval:_____

Decrease Interval:_____

f(-1) - f(-2)_____

10. For the following piecewise functions, identify the domain and range of the function using interval notation.





11. Write the function notation of each transformation.

A horizontal stretch of 3 and a vertical shift up 4_____

A vertical stretch of 5, a reflection about x, and a horizontal shift left 9_____

12. Write the description of each transformation that is shown.

-f(x)+3 _____

-1/2f(x+2)_____

3f(3x)-7_____

13. What is the end behavior of the function shown below?