Pre-Calculus Chapter 1 Review Name _____

Determine the domain and range of the graphs. Write answers in interval notation.

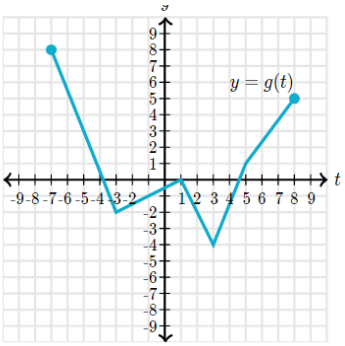
1. D: _____

R:_____

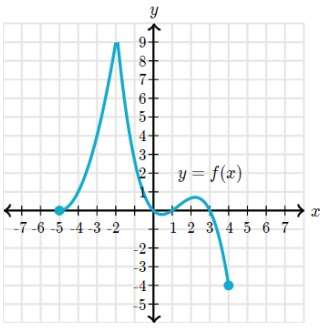
2. D: _____

R:_____

1. Graph:



2. Graph:

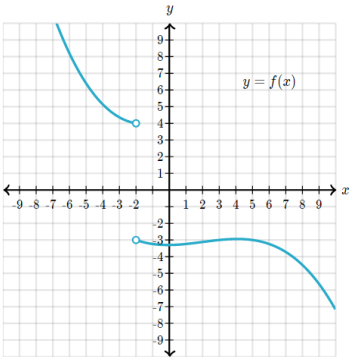


Determine if there is a point of discontinuity and if it is removable or nonremovable or jump.

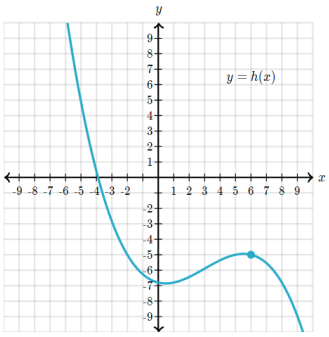
3. _____

4._____

3. Is this graph continuous at x = -2?
If not, what type of discontinuity does it have?



4. Is the graph continuous at x = 6
If not, what type of discontinuity does it have?



State the following, write the max/min in ordered pair form, write the increasing/decreasing in interval notation.

_____ 5. Local maximum

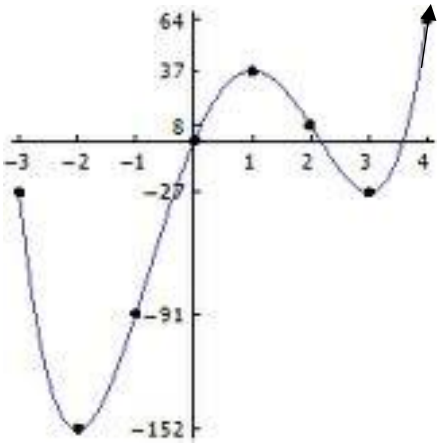
_____ 6. Local minimum

_____ 7. Absolute maximum

_____ 8. Absolute minimum

_____ 9. Interval(s) of increasing

_____ 10. Interval(s) of decreasing



Building functions. Find the following for the given functions: $f(x) = x^2 - 3x + 4$ $g(x) = 3x^2 + 5x - 7$ $h(x) = 2x + 5$

_____ 11. (f + g)(x)

_____ 12. (f – g)(x)

_____ 13. (h – f)(x)

_____ 14. (fh)(x)

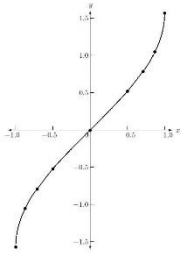
_____ 15. (f/h)(x) also state the domain for the new function.

_____ 16. Find $(g \circ f)(-2)$ for $f(x) = x^2 - 1$, $g(x) = 2x - 3$

_____ 17. Find f(g(x)) given $f(x) = 3x + 2$, $g(x) = 2x^2 - 7$.

_____ 18. Find the inverse of the function: $f(x) = 2x + 5$

_____ 19. Determine whether the function is one-to-one.



Show work below

20. Show that *f* and *g* are inversed by showing that f(g(x)) = x and g(f(x)) = x

$f(x) = \frac{x+3}{4}$ *and* $g(x) = 4x - 3$