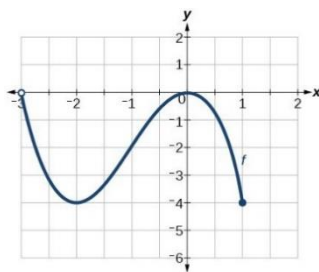


To earn credit, you must show all work for numbers 7-19 to earn credit. Please make sure the work is neat and organized. Circle all of your final answers. If you have work you want me to see on loose-leaf, please leave me a note near that problem, or I will not refer to your loose-leaf. Fractions may be left improper.

Circle true or false for each.

1. TRUE / FALSE If $x < 0$ and $-y < 0$ the point (x, y) is in quadrant III.
2. TRUE / FALSE The points $(-8, 4)$, $(2, 11)$ and $(-5, 1)$ represent the vertices of an isosceles triangle.
3. TRUE / FALSE In order to divide a line segment into 16 equal parts, you would have to use the midpoint formula 16 times.
4. TRUE / FALSE The slope of the line $x = -3$ is 0, and it has no y-intercept.
5. TRUE / FALSE The line through $(-8, 2)$ and $(-1, 4)$ and the line through $(0, -4)$ and $(-7, 7)$ are parallel.
6. TRUE / FALSE The function $g(x) = x^3 - x$ is an odd function.
7. TRUE / FALSE The graph below is a function.



8. For the line segment joining the points $(-4, 10)$ and $(4, -5)$, find:
(You must show all work)
 - a. The distance between the points.
 - b. The midpoint of the line segment.
9. Show that the points $(4, 0)$, $(2, 1)$, $(-1, -5)$ are the vertices of a right triangle.
10. Find the points that divide the line segment joining the points $(1, -2)$, $(4, -1)$ into 4 equal parts. Show all work.
11. Find the x and y intercepts of the graph of each equation.
 - a. $y^2 = 6 - x$
 - b. $y = -|3x - 7|$
12. Write the standard form of the equation of the circle whose center is $(-7, -4)$ and whose radius is 7.

13. Find the slope-intercept form of the equation of the line that passes through the points $(5, -1)$, $(-5, 5)$

14. Given $f(x) = 3 - \sqrt{x}$ find the following:

a. $f(4)$

b. $f(\frac{1}{4})$

c. $f(4x^7)$

15. Given: $\begin{cases} 3x - 1, & x < -1 \\ 4, & -1 \leq x \leq 1 \\ x^2, & x > 1 \end{cases}$ Find the following:

a. $f(-2)$

b. $f(-\frac{1}{2})$

c. $f(3)$

16. Find the difference quotient of $f(x) = x^3 + 3x$ $h \neq 0$ Simplify your answer.

17. Find the zeros of the function algebraically $f(x) = \frac{2x^2-9}{3-x}$ All work must be shown to receive credit.

18. Find the average rate of change of the function from $x_1 = 0$ to $x_2 = 3$ for the function $f(x) = -2x + 15$

19. Determine whether the function $h(x) = x^6 - 2x^2 + 3$ is even, odd, or neither.