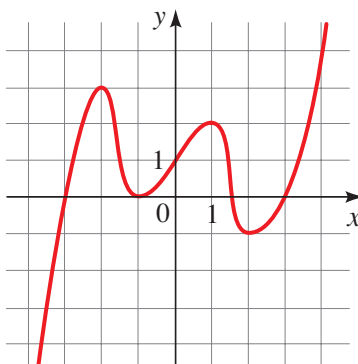


Name: _____ 7/19/2022

- Find the slope of the line through the points $P(6, 3)$ and $Q(2, 0)$.
- Find an equation of the line through the point $(1, -4)$ that is parallel to the line $x + 2y + 6 = 0$.
- Find all real solutions to $0 = x^2 - 4x + 1$.
- Find all real solutions to $\frac{4x}{x^2 + 4} = 1$.
- Use interval notation to state the solutions to the inequality $4x + 7 < \frac{3}{2}$.
- Use interval notation to state the solutions to the inequality $2x^2 + 5x \geq 0$.
- Evaluate $f(2) + f(-1)$ when $f(x) = x^3 - 3x$.
- Use interval notation to state the domain of the function $f(x) = \sqrt{1 - 5x}$.
- Use the graph below to find the value of x at each local maximum.



- Determine the net change of $r(t) = 6 - \frac{t}{6}$ from $t = 6$ to $t = 12$.
- Find $f^{-1}(10)$ when $f(x) = 6x + 7$.
- Evaluate $g(f(2))$ when $f(x) = 5x - 2$ and $g(x) = 3 - x^2$.
- Use the table below to evaluate $g(f(3))$.

x	1	2	3	4	5	6
$f(x)$	2	3	5	1	6	3
$g(x)$	3	5	6	2	1	4

- True or false: $f(x) = 4 - 3x$ is the inverse of $g(x) = \frac{3 - x}{4}$.
- Find a formula for the inverse of $f(x) = 2x^3 - 5$.
- Find the vertex of the parabola $y = x^2 + 4x$.
- Use interval notation to state the range of the quadratic function $h(x) = -x^2 - 4x + 4$.

18. Find all x -intercepts of the graph $y = -x^3 + 3x^2$.
19. Make a rough sketch of the graph of the polynomial $P(x) = x^4 - 9x^2$.
20. Sketch the graph of the function

$$f(x) = \begin{cases} 1 - x & \text{if } x \leq 0 \\ x & \text{if } x > 0 \end{cases}$$

21. Sketch the graph $y = -\sqrt{x+2}$ not by plotting points but by starting with the graph of a standard function and applying transformations.