

Name: _____

ID: A

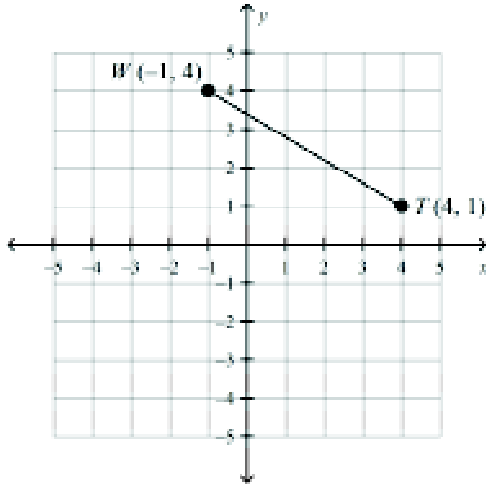
Pre Cálculo

Multiple Choice

Identify the choice that best completes the statement or answers the question. Show all procedures 7 pts each

Use the Distance Formula to find the distance between each pair of points.

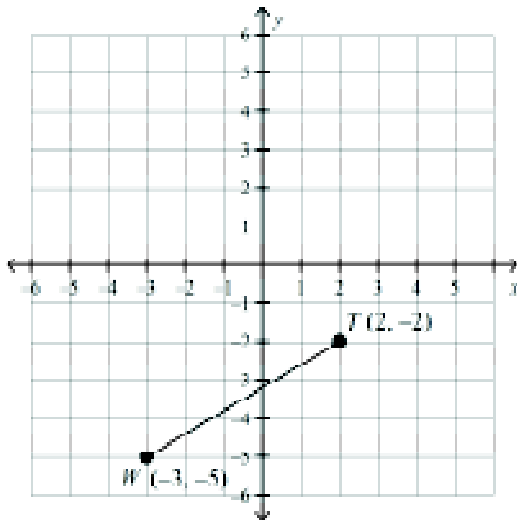
_____ 1.



- a. $\sqrt{50}$
- b. $\sqrt{34}$

- c. 6
- d. 4

_____ 2.



- a. $\sqrt{50}$
- b. 4

- c. $\sqrt{34}$
- d. 6

_____ 3. Find $(f+g)(x)$ and $(f-g)(x)$ for $f(x) = 5x^2 + 5$ and $g(x) = 3 - 7x$.

a. $(f+g)(x) = 5x^2 + 7x + 2$

$(f-g)(x) = 5x^2 - 7x + 8$

b. $(f+g)(x) = 5x^2 + 7x - 8$

$(f-g)(x) = 5x^2 - 7x + 2$

c. $(f+g)(x) = 5x^2 - 2x + 3$

$(f-g)(x) = 5x^2 + 12x - 3$

d. $(f+g)(x) = 5x^2 - 7x + 8$

$(f-g)(x) = 5x^2 + 7x + 2$

_____ 4. Let $f(x) = 9 - x^2$, $g(x) = 3 - x$. Find $(f-g)(x)$.

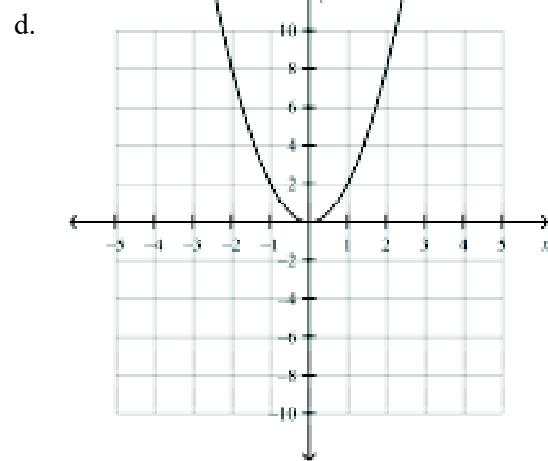
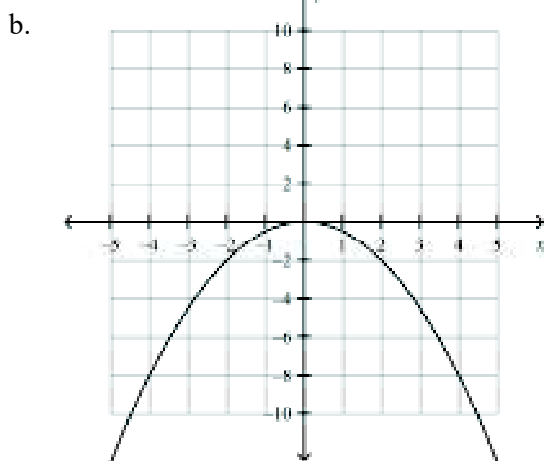
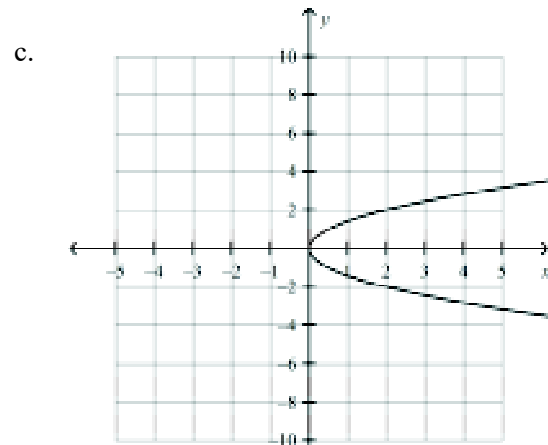
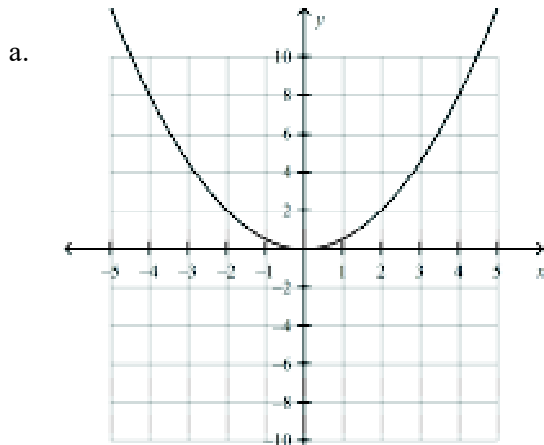
a. $-x^2 + x + 6$

b. $-x^3 - 3x^2 - 9x + 27$

c. $-x^2 - x + 12$

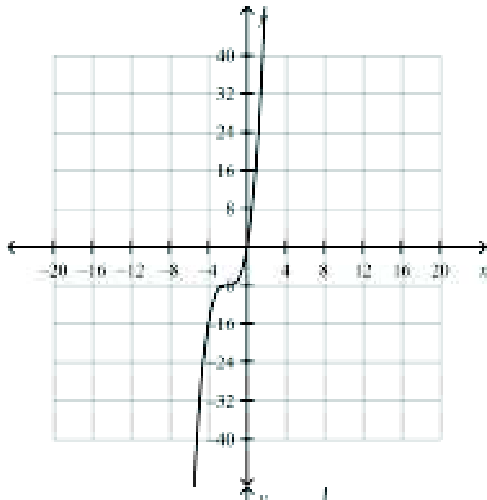
d. $3 + x$

_____ 5. Graph $g(x) = \frac{1}{2}x^2$.

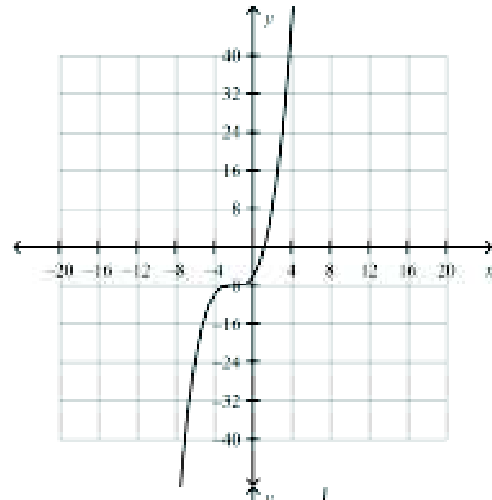


6. Graph $f(x) = \frac{1}{4}(x-2)^3 - 8$.

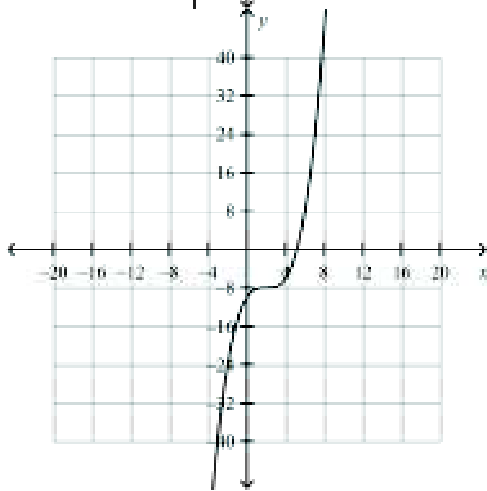
a.



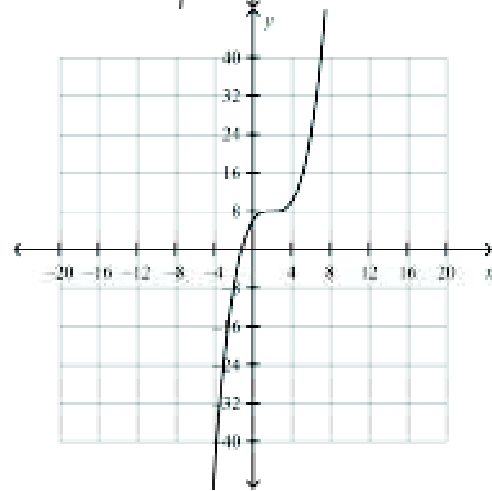
c.



b.



d.



Short Answer

For each function, describe the domain, range, intercepts, symmetry, continuity, end behavior, and intervals on which the graph is increasing/decreasing.

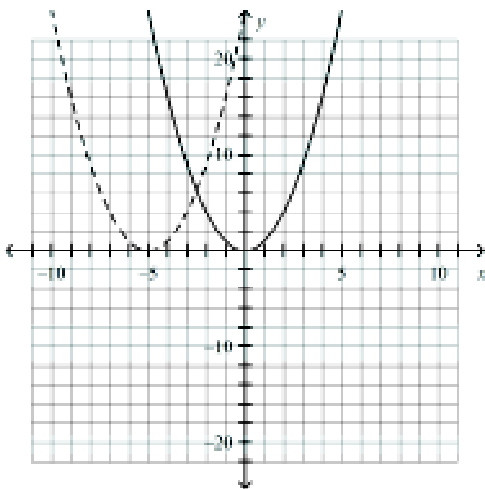
7. $f(x) = x^2$

8. $f(x) = \sqrt{x}$

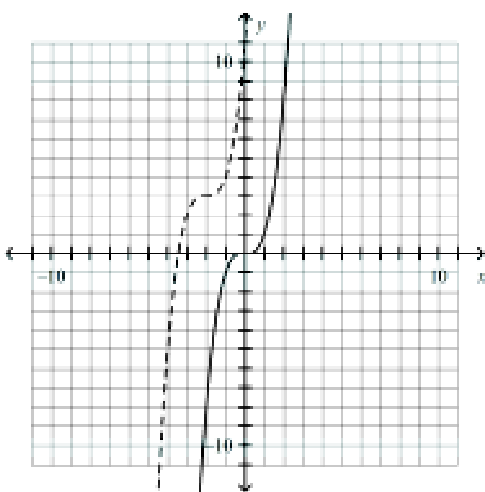
9. $f(x) = \frac{1}{x}$

Identify the change in the parent function that will produce the related function shown as a dashed line.

10. $f(x) = x^2$



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



12. Graph $f(x) = \frac{2}{x}$ and apply the horizontal line test to determine whether its inverse function exists. Write *yes* or *no*.