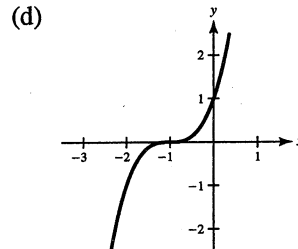
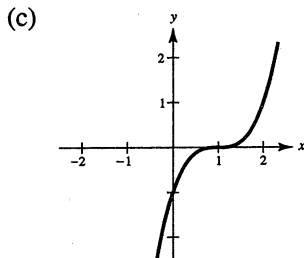
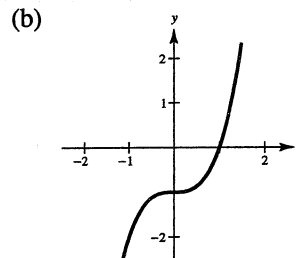
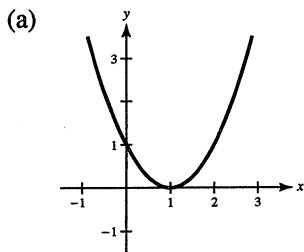


Test Form B
Chapter P

Name _____ Date _____
Class _____ Section _____

1. Find all intercepts of the graph of $y = \frac{x-1}{x+3}$.
- (a) $(1, 0), (0, -\frac{1}{3})$ (b) $(1, 0)$ (c) $(-3, 0), (1, 0)$
(d) $(-3, 0), (0, -\frac{1}{3})$ (e) None of these
2. Determine if the graph of $y = \frac{x^2}{x^2-4}$ is symmetrical with respect to the x -axis, the y -axis, or the origin.
- (a) About the x -axis (b) About the y -axis (c) About the origin
(d) All of these (e) None of these
3. Find all points of intersection of the graphs of $x^2 + 3x - y = 3$ and $x + y = 2$.
- (a) $(5, -3), (1, 1)$ (b) $(0, -3), (0, 2)$ (c) $(-5, -3), (1, 1)$
(d) $(-5, 7), (1, 1)$ (e) None of these

4. Which of the following is a sketch of the graph of the function $y = (x-1)^3$?



- (e) None of these

5. Find an equation for the line passing through the point $(4, -1)$ and parallel to the line $2x - 3y = 3$.

- (a) $2x - 3y = 11$ (b) $2x - 3y = -5$ (c) $3x - 2y = -5$
 (d) $y = \frac{2}{3}x - 1$ (e) None of these

6. Find the domain of $f(x) = \frac{1}{\sqrt{3 + 2x}}$.

- (a) $(-\infty, -\frac{3}{2})$ (b) $[-\frac{3}{2}, \infty)$ (c) $(-\frac{3}{2}, \infty)$
 (d) $(-\infty, -\frac{3}{2}) \cup (-\frac{3}{2}, \infty)$ (e) None of these

7. Find $f(x + \Delta x)$ for $f(x) = x^2 - 2x - 3$.

- (a) $x^2 - x - 3 + \Delta x$ (b) $x^2 + 2x(\Delta x) + (\Delta x)^2 - 2x - 2\Delta x - 3$
 (c) $x^2 - 2x - 3 + \Delta x$ (d) 5
 (e) None of these

8. If $f(x) = 1 - x^2$ and $g(x) = \frac{1}{\sqrt{x}}$, find $f(g(x))$.

- (a) $\frac{1 - x^2}{\sqrt{x}}$ (b) $\frac{1}{\sqrt{1 - x^2}}$ (c) $1 - \frac{1}{x}$
 (d) $\frac{1}{\sqrt{x}} + 1 - x^2$ (e) None of these

9. If the point $(-1, 1)$ lies on the graph of the equation $kx^2 - xy + y^2 = 5$, find the value of k .

- (a) 7 (b) 3 (c) 5
 (d) -3 (e) None of these

10. In which of the following equations is y a function of x ?

- (a) $2x + 3y - 1 = 0$ (b) $x^2 + 3y^2 = 7$ (c) $2x^2y = 7$
 (d) Both a and b (e) Both a and c

11. Given $f(x) = |x - 3| - 5$, find $f(1) - f(5)$.

- (a) 0 (b) -4 (c) 14
 (d) -14 (e) None of these

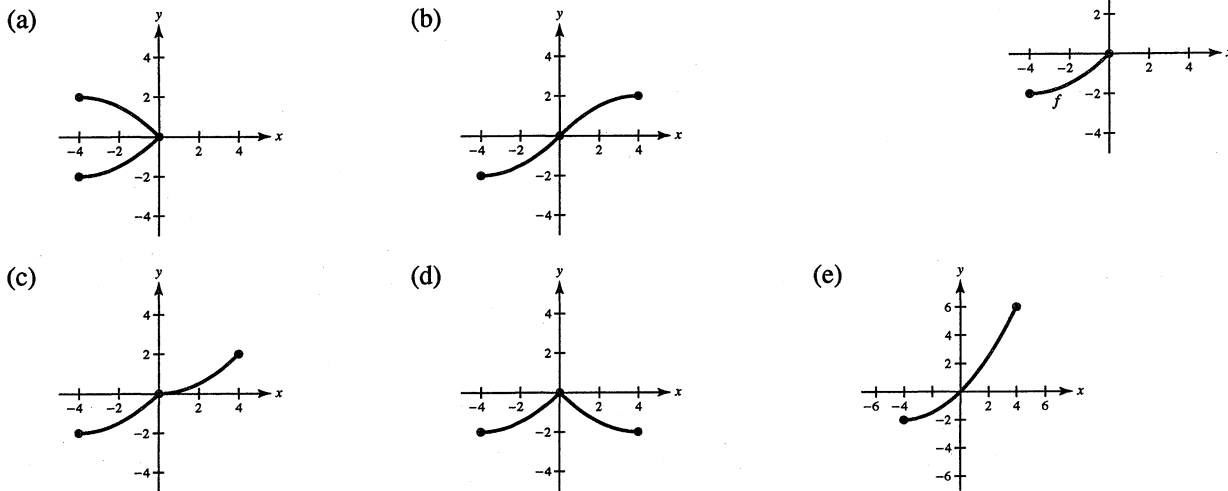
12. Determine the even function.

- (a) $f(x) = \sin x$ (b) $f(x) = \frac{x^3}{x^2 + 1}$ (c) $f(x) = 3x^4 + 5x^2 - 1$
 (d) $f(x) = \sqrt{x^3 + 1}$ (e) None of these

13. Find the point that lies on the line determined by the points $(1, -3)$ and $(-2, -4)$.

- (a) $(3, -2)$ (b) $(-1, -1)$ (c) $(10, 0)$
 (d) $(-4, 2)$ (e) $(4, 2)$

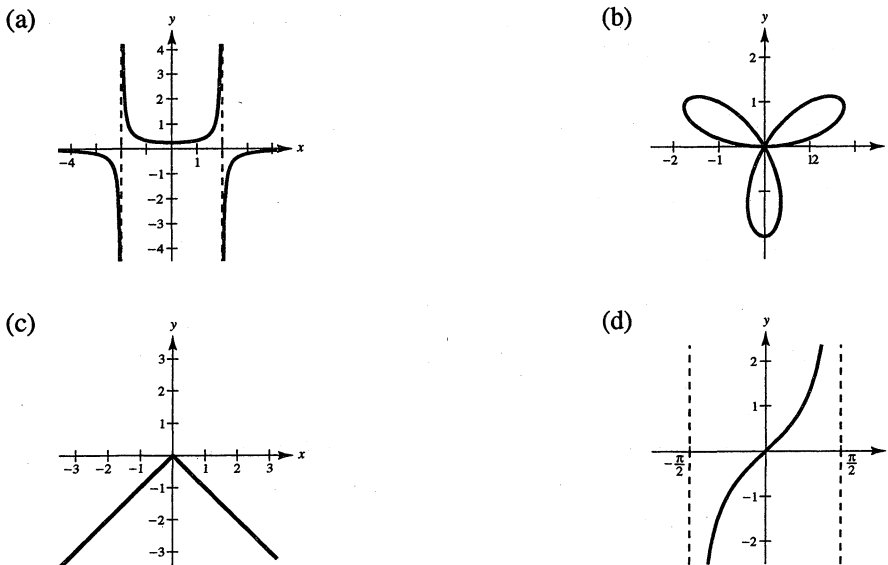
14. The domain of the function f shown in the figure is $-4 \leq x \leq 4$. Choose the complete graph of f if f is odd.



15. Describe the transformation needed to sketch the graph of $y = \frac{1}{x} + 2$ using the graph of $f(x) = \frac{1}{x}$.

- (a) Shift $f(x)$ two units to the right. (b) Shift $f(x)$ two units to the left.
 (c) Shift $f(x)$ two units upward. (d) Shift $f(x)$ two units downward.
 (e) Reflect $f(x)$ about the x -axis.

16. Use the vertical line test to determine which of the following graphs does not represent y as a function of x .



- (e) Both a and d

17. Let $f(x) = \begin{cases} x^2 - 5, & x < 2 \\ 3x + 1, & x \geq 2 \end{cases}$. Find $f(1)$.
- (a) -4 (b) -2 (c) 4
(d) 2 (e) 0
18. The dollar value of a product in 1998 is \$78. The value of the product is expected to decrease \$5.75 per year for the next 5 years. Write a linear equation that gives the dollar value V of the product in terms of the year t . (Let $t = 8$ represent 1998.)
- (a) $V = 78 - 5.75t$ (b) $V = 78 + 5.75t$ (c) $V = 78 + 5.75(t - 8)$
(d) $V = 78 - 5.75(t - 8)$ (e) $V = 5.75 - 78(t - 8)$
19. A business had annual retail sales of \$124,000 in 1993 and \$211,000 in 1996. Assuming that the annual increase in sales follows a linear pattern, predict the retail for 2001.
- (a) \$356,000 (b) \$435,000 (c) \$646,000
(d) \$298,000 (e) \$327,000
20. In order for a company to realize a profit in the manufacture and sale of a certain item, the revenue, R , for selling x items must be greater than the cost, C , of producing x items. If $R = 69.99x$ and $C = 59x + 850$, for what values of x will this product return a profit?
- (a) $x \geq 78$ (b) $x \geq 15$ (c) $x \geq 85$
(d) $x \geq 13$ (e) None of these