1. Find the midpoint of the segment AB between the points A(-1,-3) and B(15,11).
2. Find the area of the right triangle with vertices A(6,-3), B(-3,5), and C(1,-5).

 

1. Find the type of quadrilateral with the vertices A(1,1), B(1,0), C(-3,0), and D(-3,1).

 

1. Find the equation of the upper half of the circle (x-4)2 + (y+7)2 = 39.
2. For the given circle, x2 + y2 – 4x – 6y + 4 = 0, find the x- and y- intercepts.
3. If three consecutive vertices of a parallelogram are A(-3,-1), B(1,1), and C(-1,4), find the fourth vertex.



1. Find a general form of an equation of the line through the point A(-2,5) with the x-intercept 0.
2. If *a* and *h* are real numbers, find $\frac{f\left(a+h\right)-f(a)}{h}$, *h* ≠ 0 if f(x) = 6x – 9.
3. If *a* is a positive real number, find g$(\frac{1}{a})$ if g(x) = 6x2.
4. Determine whether f is even, odd, or neither.

f(x) = 5x5 – 3x4

1. Let f(x) = -x2, g(x) = 4x – 8. Find( $\frac{f}{g}$)(5).
2. Let f(x) = |x|, g(x) = -5. Find (g◦f)(x).
3. Let f(x) = x3 + 7, g(x) = $\sqrt[3]{x-7. }$ Find (g◦f)(x).
4. Find the standard equation of a parabola that has vertical axis and satisfies the conditions: x-intercepts -1 and 3, highest point has y-coordinate 2.
5. An object is projected vertically upward from the top of a building 81 feet high with an initial velocity of 80 ft/sec. Find its maximum distance above the ground.
6. A doorway has the shape of a parabolic arch and is 16 feet high at the center and 8 feet wide at the base. If a rectangular box 15 feet high must fit through the doorway, what must be the maximum width of the box?
7. Determine whether the function f(x) = $\frac{1}{x} $is one-to-one.
8. Ventilation is an effective way to improve indoor air quality. In nonsmoking restaurants, air circulation requirements are given by the function V(x) = 35*x*, where *x* is the number of people in the dining area. Find V-1. Use V-1 to determine the maximum number of people that should be in a restaurant having a ventilation capability of 2,700 ft3/min.
9. y is directly proportional to x and inversely proportional to the sum of r and s, if x=5, r=3, and s=2, then y = 20. Find k.
10. Find the point with coordinates of the form (2a, a) that is in the third quadrant and is a distance 9 from P(2,5).
11. Find the inverse function of f(x) = $\sqrt[3]{x}$ +2.