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| Find all real solutions. |
| 1. 3x² + 25x = -28

  | 1. 27x³ = 64
 | 1. x³ - 3x² = 4x – 12
 |
| 1. x³y – 4xy = 0
 | 1. (a² + 1)² - 12(a² + 1) = -20
 | 1.
 |
|  |
| 1. x + 5 = 14 – ½x
 | 1.
 | 1. x² - x – 12 = 0
 |
| 1. - 3x² + 2 = 0
 | 1. 3|x - 4| = 10
 | 1. $2x=2-\sqrt{6-x}$
 |
| Word Problems. |
| 1. Find three consecutive integers whose sum is 360.
 | 1. If Ben invests $3000 at 4% interest per year, how much additional money must he invest at 5.5% annual interest to ensure that the interest he receives each year is 4.5% of the total amount invested?
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| 1. A rectangular parcel of land is 70 ft longer than it is wide. Each diagonal between opposite corners is 130 ft. What are the dimensions of the parcel?
 | 1. A large plywood box has a volume of 180 ft³. Its length is 9 ft greater than its height, and its width is 4 ft less than its height. What is the height of the box?

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| Solve each inequality. Write the answer using interval notation, and sketch the solution on the real number line. |
| 1. -4 < 5 – 3x ≤ 17
 | 1.
 | 1. |x - 4|< 3
 |
| 1.
 |  |  |
| Describe and sketch the regions given by each set. |
| 1.

y | 1.

y |
|  23. Plot the points P(0, 3), Q(3, 0), and R(6, 3) in the coordinate plane. a) Where must the point S be located so that PQRS is a square?b) Find the area of PQRS | 1. Let P(-3, 1) and Q(5, 6) be two points in the coordinate plane.

Plot P and Q in the coordinate plane.Find the distance between P and Q.Find the midpoint of the segment PQ.Find the slope of the line that contains P and Q.Find the perpendicular bisector of the line that contains P and Q.Find an equation for the circle for which the segment PQ is the diameter. |
| 1. Find the x and y intercepts of the graph of
 |  a ) y = x² - 4. | b)  |
| Find the center and radius of each circle.  |
| 1. x² + y² = 25.
 | 1. (x – 2)² + (y + 1)² = 9
 | 1. x² + 6x + y² - 2y + 6 = 0
 |
| Find the equation of the circle.  |
| 1. Centered at (-2,2); passes through (0,2)
 | 1. Centered at (-1,1); passes through (2,0)
 |
| Find an equation for the line with the given property. |
| 1. It passes through the point (3, -6) and is parallel to the line 3x + y – 10 = 0.
 | 1. It has x-intercept 6 and y-intercept 4.
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