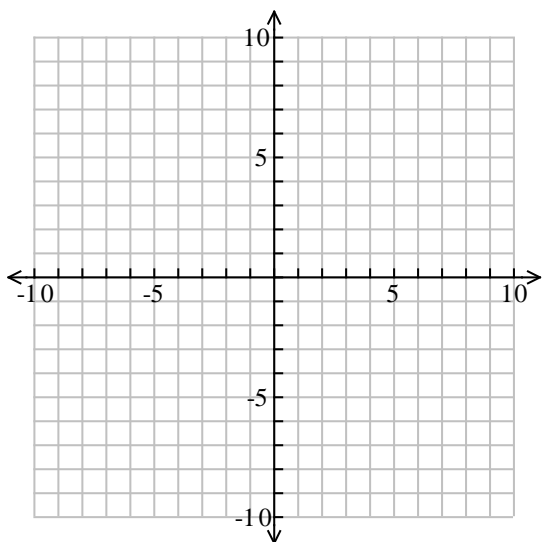


1. Solve

$$\begin{array}{l} 2x - y = -2 \\ x - y = 3 \end{array} \quad \text{by}$$

a. Graphing



b. Substitution

c. Elimination

2. Draw a circle. Indicate an arc, a chord, a radius, a secant line, a tangent line and a sector.

3. An arc of length 4 feet subtends a central angle of 60 degrees. What is the radius of this circle?

4. Solve

$$x - y = 6$$

$$5x = y + 14 .$$

$$11x + 5y = 2$$

5. What is the complement of the angle $\frac{3\pi}{8}$? Is $\frac{3\pi}{8}$ an acute or an obtuse angle?

6. Sand is mixed with wildflowers seeds so that it is easier to disseminate the seeds upon planting. How much of a 24% wildflower mix and a 60% wildflower mix is needed to obtain 6 pounds of a 50% mixture?

7. A pumpkin pie has a diameter of 10 inches. If one piece (sector) of pie has an area of 7.8 square inches, what is the length of the pie piece's outer crust?

8. Solve

$$\begin{aligned}y^2 - 4 &= 2\log_2 x \\ 2y + 5 &= 10\log_2 x\end{aligned}$$

9. Convert $\frac{-5}{12}$ revolutions to degrees and to radians. Illustrate it as an angle in standard position.

10. If a disk is rotating 75 rotations per minute, how many radians will the disk rotate in 3 minutes?

11. Suppose the intensity of gum flavor satisfies the exponential decay model, $p(t) = ae^{kt}$, where t is time in minutes. If $p(4) = 36$ and $p(6) = 9$, find the exact values of a and k .

12. If a circle has a 25-cm diameter, find the arc length and sector area subtended by a central angle of 108° . What is the exact radian measure of this central angle?

13. Solve

$$3.5y = 14 - 1.5x$$

$$45x + 105y = 420$$

14. What is the circumference of the circle of radius 5 cm?

15. Solve

$$y = (x+3)^2 - 9$$

$$(x+3)^2 + y^2 = 30$$

16. Sketch a positive angle in standard position.

17. If a point on the edge of a disk rotates about the disk's center 2.5 times, how many degrees will it rotate and how many radians will it rotate?

18. Solve

$$3y = 5x + 21$$

$$6y + 24 = 10x$$

19. Solve

$$(x - 5)^2 + y^2 = 121$$

$$y = x + 8$$