

1. What type of solutions are there to the following equation?

$$x^2 + 4x - 45 = 0$$

2. What type of solutions are there to the following equation?

$$x^2 - 8x + 16 = 0$$

3. Solve the following quadratic equation.

$$x^2 + 3x - 5 = 0$$

4. State the domain for the following circle.

$$x^2 + y^2 = 49$$

5. State the domain for the following circle.

$$(x + 2)^2 + (y - 4)^2 = 25$$

6. Rewrite the following equation of a circle into standard form.

$$x^2 + y^2 - 6x + 2y + 6 = 0$$

7. Rewrite the following equation of a parabola into standard form.

$$y^2 - x + 4y - 4 = 0$$

8. State the domain of the following parabola.

$$x = (y + 3)^2 - 7$$

9. Write the inverse of the following function.

$$f(x) = x - 9$$

10. Write the inverse of the following function.

$$f(x) = 6x - 4$$

Answer Key

1. 2 rational

2. 1 rational

3. $x = \frac{-3 \pm \sqrt{29}}{2}$

4. *Domain* : $[-7, 7]$

5. *Domain* : $[-7, 3]$

6. $(x - 3)^2 + (y + 1)^2 = 4$

7. $x = (y + 2)^2 - 8$

8. *Domain* : $[-7, \infty)$

9. $f^{-1}(x) = x + 9$

10. $f^{-1}(x) = \frac{x + 4}{6}$