

Precalculus Algebra Review Worksheet #8 Selected Solutions

Find all real number solutions of each of the following equations. If the solutions are irrational, then express them rounded to three significant figures.

3. $25x^2 + 30x + 9 = 0$

$$(5x + 3)^2 = 0$$

$$5x + 3 = 0$$

$$x = -3/5$$

6. $2x^2 = x + 6$

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

$$(2x + 3)(x - 2) = 0$$

$$2x + 3 = 0 \text{ or } x - 2 = 0$$

$$x = -3/2 \text{ or } x = 2$$

9. $x^2 + 6x = 0$

$$x(x + 6) = 0$$

$$x = 0 \text{ or } x + 6 = 0$$

$$x = 0 \text{ or } x = -6$$

12. $x^2 = 5x - 10$

$$x^2 - 5x + 10 = 0$$

$$x = \frac{5 \pm \sqrt{25 - 40}}{2}$$

no real number solutions

15. $6x^2 = x + 1$

$$6x^2 - x - 1 = 0$$

$$(3x + 1)(2x - 1) = 0$$

$$3x + 1 = 0 \text{ or } 2x - 1 = 0$$

$$x = -1/3 \text{ or } x = 1/2$$

18. $x^2 - 7x = 3$

$$x^2 - 7x - 3 = 0$$

$$x = \frac{7 \pm \sqrt{49 + 12}}{2} = \frac{7 \pm \sqrt{61}}{2}$$

$$x \approx 7.41 \text{ or } x \approx -0.405$$