

Precalculus Algebra Review Worksheet #10 Selected Solutions

Solve each of the following equations. Show your work neatly organized. (Represent irrational solutions rounded to 3 significant digits.)

3. $|1 - 3x| = 10$

$$1 - 3x = 10 \text{ or } 1 - 3x = -10$$

$$-3x = 9 \quad -3x = -11$$

$$x = -3 \text{ or } x = 11/3$$

6. $|x + 3| = 2$

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

$$x = -1 \text{ or } x = -5$$

9. $|2x - 7| = -7$

no solutions

12. $|x^2 - 8x| = 9$

$$x^2 - 8x = 9 \text{ or } x^2 - 8x = -9$$

$$x^2 - 8x - 9 = 0$$

$$x^2 - 8x + 9 = 0$$

$$(x - 9)(x + 1) = 0$$

$$x = \frac{8 \pm \sqrt{64 - 36}}{2}$$

$$x - 9 = 0 \text{ or } x + 1 = 0$$

$$x = \frac{8 \pm \sqrt{28}}{2}$$

$$x = 9 \text{ or } x = -1 \text{ or } x \approx 6.65 \text{ or } x \approx 1.35$$