

Algebra 2- Chapter 6
Learning Target Quiz #5

Name Key Per

LT #5: Solving Radical Equations

Solve the following equations. Show your work when you check for extraneous solutions. (4 pts each)

1. $\frac{2 + \sqrt{3x-3}}{-2} = \frac{8}{-2}$

$$(\sqrt{3x-3})^2 = (6)^2$$

$$3x-3 = 36$$

$$3x = 39$$

$$x = 13$$

Check:

$$2 + \sqrt{3(13)-3} = 8$$

$$2 + \sqrt{36} = 8$$

$$8 = 8 \checkmark$$

$$2x+1 = 81$$

$$2x = 80$$

$$x = 40$$

Check:

$$(80+1)^{1/4} = 3$$

$$81^{1/4} = 3 \checkmark$$

$$2(\sqrt{y-15})^2 = (3+\sqrt{y})^2$$

$$y-15 = (3+\sqrt{y})(3+\sqrt{y})$$

$$y-15 = 9 + 3\sqrt{y} + 3\sqrt{y} + y$$

$$y-15 = 9 + 6\sqrt{y} + y$$

$$\frac{-24}{6} = \frac{6\sqrt{y}}{6}$$

Check:

$$(-4)^2 = (\sqrt{y})^2$$

$$y = 16$$

$$\sqrt{16-15} = 3 + \sqrt{16}$$

$$\sqrt{1} \neq 3 + 4$$

1. X=13

2. NO SOLUTION

3. X=40

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