

Review of Operations with Square Roots

a) Multiply:  $(\sqrt{3} - 2)(4 - 2\sqrt{7})$

b) Multiply:  $(-\sqrt{2})(3\sqrt{5} + 4\sqrt{3})$

c) Divide:  $\frac{\sqrt{45}}{\sqrt{9}}$

d) Divide:  $\frac{4\sqrt{3}}{\sqrt{8}}$

Review: Solve the equation by taking a square root.

$$3(x + 2)^2 = 27$$

Review: Find the zeros of the function.

$$f(x) = 6x^2 + x - 1$$

Ex 1. Solve the equation.

$$2\sqrt{x+1} = 4$$

Ex 2. Solve the equation.

$$\sqrt{2x+5} = \sqrt{x+7}$$

Ex 3. Solve the equation.

$$x+1 = \sqrt{7x+15}$$

Ex 4. Solve the equation.

$$\sqrt[3]{2x-5} = 2\sqrt[3]{8x+1}$$

Algebra 2  
Solving Radical Equations—Assignment

Name: \_\_\_\_\_

Date: \_\_\_\_\_

1. Solve the equation.

$$x - 10 = \sqrt{9x}$$

2. Solve the equation.

$$\sqrt{2x + 30} = x + 3$$

3. Solve the equation.

$$\sqrt{4x + 1} = \sqrt{x + 10}$$

4. Solve the equation.

$$\sqrt[3]{x + 5} = 2\sqrt[3]{2x + 6}$$

5. Solve the equation by factoring.  
 $x^2 - 81 = 0$

6. Solve the equation by taking a square root.  
What did I do wrong???? Find the step where I did something incorrectly and fix it. Thanks!

$$2(x + 1)^2 + 3 = 21$$

$$2(x + 1)^2 = 18$$

$$(x + 1)^2 = 9$$

$$x + 1 = 3$$

$$x = 2$$

7. Find the zeros of the function.  
 $g(x) = x^2 + 6x + 8$

8. Solve the equation by taking a square root.  
 $3x^2 + 7 = 31$

9. Multiply:  $(4\sqrt{6})(5\sqrt{10})$

10. Divide:  $\frac{6\sqrt{5}}{\sqrt{15}}$