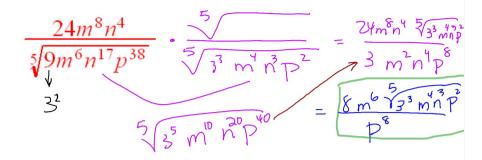
#### Rationalize this denominator.



# Solve this equation.

$$5 + 2\sqrt{4x - 9} = 13$$

$$-5$$

$$2\sqrt{4x - 9} = 8$$

$$2\sqrt{4x - 9} = 8$$

$$2\sqrt{4x - 9} = 8$$

$$4x - 9 = 16$$

#### Rationalize this denominator.

$$\frac{8+\sqrt{3}}{\sqrt{6}-\sqrt{2}}, \frac{\sqrt{6}+\sqrt{2}}{\sqrt{6}+\sqrt{2}} = \frac{96}{6-2} + 116$$

### Sec 7-5: Solving Square Root and Other Radical Equations.

A radical equation is an equation that has a variable in the radicand or a variable with a fractional exponent.

#### Solving Radical Equations:

- 1. Isolate the radical on one side of the equation.
- 2. Raise both sides of the equation to the same power as the index of the radical.
- 3. Finish solving for x.
- 4. Check your answers.

## Solve this equation.

$$\sqrt{x-4} + 4 = x-y$$

$$-4$$

$$(x-y)^{2} = (x-y)^{2}$$

$$x-y = x^{2}-8x + 16$$

$$-4x-5 = x^{2}-9x + 20$$

$$0 = (x-y)(x-5)$$

### Solve this equation.

$$4 \cdot \frac{3\sqrt[4]{2x+7} - 1}{4} = 2 \cdot 4$$

$$3\sqrt[4]{2x+7} - 1 = 8$$

$$+ 1 = 8$$

$$2x + 7 = 8$$

$$2x + 7 = 8$$

$$2x = 74$$

$$2x = 37$$

$$x = 37$$

## Solve this equation.

$$\sqrt{5x + 19} - 1 = x$$
+1
$$(\sqrt{5x + 19})^{2} = (x + 1)^{2}$$

$$5x + 19 = x^{2} + 2x + 1$$

$$0 = x^{2} - 3x - 18$$

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

These equations can lead to extraneous solutions like rational equations can.
So you had better check your answers!



Solve this equation.

$$2(x+4)^{\frac{1}{3}} + 8 = 14$$

$$2 \sqrt[3]{x+4} + 8 = 14$$

$$x+4 = 6$$

$$x+4 = 6$$

$$x + 4 = 6$$

Solve this equation.

$$(2x+1)^{\frac{2}{3}} + 11 = 36$$

$$-11 - 11$$

$$(2x+1)^{\frac{2}{3}} = 25$$

$$2x+1 = 125$$

$$2x=129$$

$$x=62$$