Warm Up 1/9/19

1. Solve: $\frac{x-4}{-2} = 13$ (-2)

$x - 4 = -26$

$+4 \quad +4$

$\boxed{x = -22}$

2. Write the equation of the line parallel to $\boxed{y = 4x - 6}$ that crosses through (-2, -10)
(Parallel lines have the same slope)

$m = 4 \quad (-2, -10)$

$y - y_1 = m(x - x_1)$

$y + 10 = 4(x + 2)$

$y + 10 = 4x + 8$

$-10 \quad -10$

$\boxed{y = 4x - 2}$

3. Solve: $x + 2y = -9$

$y = -3x + 13$ $(7, -8)$

$7 + 2y = -9$

$-7 \quad -7$

$\frac{2y}{2} = \frac{-16}{2}$

$y = -8$

$x + 2(-3x + 13) = -9$

$-6x + 26 = -9$

$-5x + 26 = -9$

$-26 \quad -26$

$\frac{-5x}{-5} = \frac{-35}{-5}$

$x = 7$

Simplifying Radicals

Steps for Simplifying Roots

$\sqrt{8}$

1) Find the largest perfect square that is a factor of the number

$\sqrt{4 \cdot 2}$

2) Write the factor pair under the square root

$\sqrt{4} \cdot \sqrt{2}$

3) Separate into two square roots

$2 \cdot \sqrt{2}$

4) We choose a perfect square because we know its square root is an integer.

$2\sqrt{2}$

5) Imply multiplication

$\sqrt{24} = \sqrt{4 \cdot 6} = \sqrt{4} \cdot \sqrt{6} = 2\sqrt{6}$

Factors

1, 2, 3, 4, 6, 8, 12, 24

Perfect Squares

1, 4

Simplify

Perfect Square Factor * Other Factor

$\sqrt{8}$ = =

LEAVE IN RADICAL FORM

$\sqrt{20}$ $= \sqrt{4 \cdot 5} = \sqrt{4} \cdot \sqrt{5} = 2\sqrt{5}$ (2)

$\sqrt{32}$ $= \sqrt{16 \cdot 2} = \sqrt{16} \cdot \sqrt{2} = 4\sqrt{2}$ (4)

$\sqrt{75}$ $= \sqrt{25 \cdot 3} = \sqrt{25} \cdot \sqrt{3} = 5\sqrt{3}$ (5)

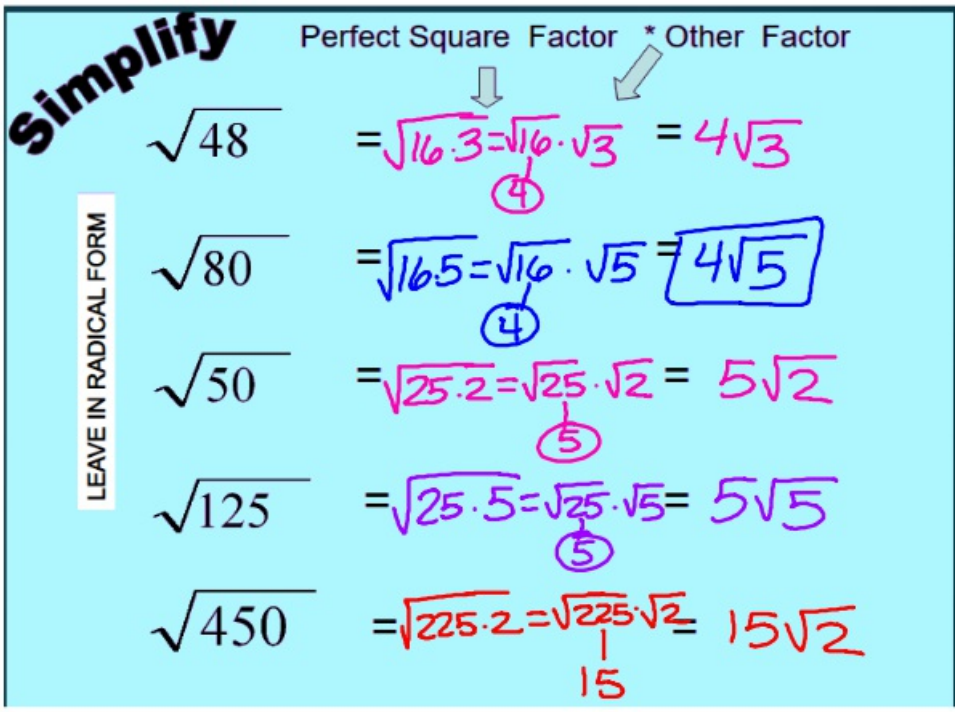
$\sqrt{40}$ = =

$\sqrt{4 \cdot 10} = \sqrt{4} \cdot \sqrt{10}$

(2) $2\sqrt{10}$

$\sqrt{54} = \sqrt{9 \cdot 6} = \sqrt{9} \cdot \sqrt{6} = \boxed{3\sqrt{6}}$

(3)



$\sqrt{48} = \sqrt{4 \cdot 12} = \sqrt{4} \cdot \sqrt{12}$

$\sqrt{4} \cdot \sqrt{3}$

$4\sqrt{3}$

$2\sqrt{8}$

$\sqrt{4} \cdot \sqrt{2}$

$4\sqrt{2}$

$6\sqrt{12}$

$\sqrt{4} \cdot \sqrt{3}$

$12\sqrt{3}$

$8\sqrt{44}$

$\sqrt{4} \cdot \sqrt{11}$

$16\sqrt{11}$