Lesson 5.2- SWBAT simplify numerical radicals.

Kick off- Simplify each of the following:

1) $\sqrt{175}$

2) $\sqrt{36}$

3) Find $f^{-1}(x)$ when $f(x) = 3x + 2$

4) Find $f^{-1}(x)$ when $f(x) = \frac{1}{2}x - 1$

Perfect Squares 1, 4, 9, 16, 25, 36, 49, 64, 81, 100

To Simplify a Radical (Simplest Radical Form)

1) Find the factors of the inside number and one of the factors must be a perfect square.
2) Split the inside numbers into two different radicals
3) The perfect square first and then the other factor.
4) Take the square root of the perfect square and if there is a number on the outside multiply it to the number.

Examples: Put each of the following in simplest radical form.

1) $\sqrt{24}$

2) $5\sqrt{8}$

3) $\sqrt{40}$

4) $\sqrt{36}$

5) $2\sqrt{99}$

6) $2\sqrt{28}$

Homework

1) $3\sqrt{2}$ (2) $5\sqrt{6}$ (3) 4

4) $4\sqrt{6}$ (5) $2\sqrt{2}$ (6) $2\sqrt{5}$

(7) $8\sqrt{5}$ (8) $7\sqrt{2}$

7) Simplify: $\sqrt{64}$

8) Find $f^{-1}(x)$ when $f(x) = \frac{5}{3}x + 2$

9) Simplify: $2\sqrt{32}$

10) Find $f^{-1}(x)$ when $f(x) = -6x + 1$

1. Change f(x) to y
2. Switch x and y
3. Solve for y
4. Change y to $f^{-1}(x)$

11) Find $f^{-1}(x)$ when $f(x) = 4x + 7$

12) Simplify: $3\sqrt{50}$

13) Find $f^{-1}(x)$ when $f(x) = -\frac{1}{3}x - 5$

14) Simplify: $5\sqrt{40}$

15) Simplify: $4\sqrt{9}$

16) Find $f^{-1}(x)$ when $f(x) = -2x + 6$

17) Simplify: $3\sqrt{175}$

18) Simplify: $\sqrt{125}$

19) Simplify: $4\sqrt{200}$

20) Find $f^{-1}(x)$ when $f(x) = x + 2$