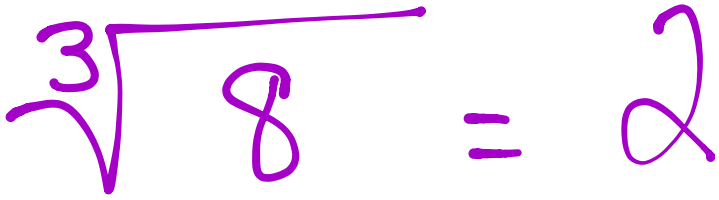
10

Feb. 0- bell ringer

1. What do we mean by the square root of a number?

2. What do we mean by the cube root of a number?



Section 10-2, part 1

Learning target:
You can simplify radicals(square roots).

1) $\sqrt{4} = 2$

2) $\sqrt{81} = 9$

3) $-\sqrt{4} = -2$

4) $\pm\sqrt{36} = \pm 6$

5) $\sqrt{-16}$ no solution

Simplify

1) $\sqrt{8} = \sqrt{4 \cdot 2}$

$= \boxed{2\sqrt{2}}$

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

$= \boxed{2\sqrt{5}}$

3) $\sqrt{72}$

$\sqrt{36 \cdot 2}$

$6\sqrt{2}$

$\sqrt{9 \cdot 8}$

$\sqrt{9 \cdot 4 \cdot 2}$

$3 \cdot 2\sqrt{2} = 6\sqrt{2}$

4) $\sqrt{128}$ $\sqrt{64 \cdot 2}$

$8\sqrt{2}$

5) $\sqrt{500} = \sqrt{100 \cdot 5}$

$10\sqrt{5}$

6) $\sqrt{x^2} = x$

7) $\sqrt{x^{10}} = x^5$

$x^5 \cdot x^5$

x^{10}

8) $\sqrt{x^6 y^8} = x^3 y^4$

9) $\sqrt{x^3} = \sqrt{x^2 \cdot x}$

$x\sqrt{x}$

10) $\sqrt{8a^3} = \sqrt{4 \cdot 2 \cdot a^2 \cdot a}$

$2a\sqrt{2a}$

11) $\sqrt{a^3 b^5}$

$\sqrt{a^2 \cdot a \cdot b^4 \cdot b}$

$ab^2\sqrt{ab}$

12) $\sqrt{40a^4}$

$\sqrt{4 \cdot 10 a^4} = \boxed{2a^2\sqrt{10}}$

13) $\sqrt{20m^2n^7} = \sqrt{4 \cdot 5 m^2 \cdot n^6 \cdot n}$

$\boxed{2mn^3\sqrt{5n}}$

14) $\sqrt{3} \cdot \sqrt{3} = \sqrt{9} = 3$

15) $\sqrt{8} \cdot \sqrt{8} = \sqrt{64} = 8$

16) $\sqrt{729} \cdot \sqrt{729} = 729$

17) $\sqrt{5} \cdot \sqrt{10}$

$\sqrt{5} \cdot \sqrt{5} \cdot \sqrt{2}$

$5\sqrt{2}$

$\sqrt{50}$

$\sqrt{25 \cdot 2}$

$5\sqrt{2}$

18) $4\sqrt{5} \cdot 3\sqrt{15}$

$\sqrt{5} \cdot \sqrt{3}$

$12\sqrt{75}$

$12\sqrt{25 \cdot 3}$

$60\sqrt{3}$

12.5

$\boxed{60\sqrt{3}}$

19) $\sqrt{3}(\sqrt{3} + \sqrt{2})$

$\boxed{3 + \sqrt{6}}$

20) $\sqrt{3}(\sqrt{8} + \sqrt{6})$

$\sqrt{3}(2\sqrt{2} + \sqrt{6})$

$2\sqrt{6} + \sqrt{18}$ 9.2

$\boxed{2\sqrt{6} + 3\sqrt{2}}$

21) $\sqrt{3}(2\sqrt{12}+4\sqrt{7})$

$\sqrt{4\cdot 3}$

$\sqrt{3}(4\sqrt{3}+4\sqrt{7})$

$12+4\sqrt{21}$

Assignment

WS 10-2, Part I

28-80E