Simplify. Rationalize the denominator.

$$\frac{\sqrt[3]{33}}{\sqrt[3]{11m^2n}} = \sqrt[3]{\frac{33}{11m^2n}} = \sqrt[3]{\frac{3}{m^2n}}$$

$$= \frac{3\sqrt{3}}{3\sqrt{m^2 n^2}} = \frac{3\sqrt{3}mn^2}{\sqrt{3}mn^2} = \frac{3\sqrt{3}mn^2}{\sqrt{3}mn^2}$$

You can now do Hwk #16 Sec 7-2

Pages 377-378

Problems 19, 20, 24, 25, 28, 30, 43, 46, 50, 53

Simplify. Rationalize the denominator.

$$\frac{\left(7-\sqrt{3}\right)^{2}}{\sqrt{3}} = \frac{3}{3}$$

Simplify:

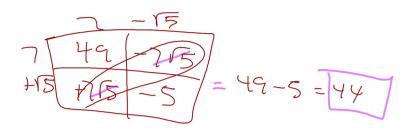
$$\sqrt{72} + 3 \sqrt{200} - 5 \sqrt{18}$$
 $36.2 | 100.2 | 9.2$
 $6(2 + 30(2 - 15)(2 - 21)(2)$

Expand each.

$$(1.)(2-\sqrt{3})(4+10\sqrt{3})$$

2.
$$(2 + \sqrt{10})(4 - \sqrt{3})$$

3.
$$(7 + \sqrt{5})(7 - \sqrt{5})$$



Expand.

$$(2P + 3Q)(2P - 3Q) = (3Q)^2 - (3Q)^2$$

$$(2P)^2-(3a)^2$$

Conjugates:

Factors such as (a + b) and (a - b) are called conjugates

Whenever you multiply conjugates you always get the same result:

$$(a + b)(a - b) = a^2 - b^2$$

Whenever you multiply conjugates involving square roots the result is ALWAYS a constant.

To rationalize a denominator that contains a radical expression with a sum or difference such as

$$\frac{10}{2+\sqrt{5}}$$

You multiply the numerator and denominator by the conjugate of the denominator.

$$\frac{10}{2+\sqrt{5}} \cdot \frac{(2-\sqrt{5})}{2-\sqrt{5}} = \frac{20-105}{-1}$$

$$2^{2}-(5)^{2}$$

$$(1-5)^{2} = \frac{20-105}{-105}$$

Rationalize the denominator.

1.
$$\frac{-7}{8+\sqrt{2}}$$
, $\frac{8-72}{8-72}$ - $\frac{-56+7\sqrt{2}}{62}$ $\frac{a^2-b^2}{8^2-(72)^2}$