Remember what the result ALWAYS is when you expand $(a + b)(a - b) = a^2 - b^2$

(A+B) & (A-B) are called conjugates

Simplify.
$$(3 + \sqrt{6})(3 - \sqrt{6})$$

$$= (3)^{2} - (\sqrt{6})^{2}$$

$$= 9 - 6 = \boxed{3}$$

Expand and simplify.

$$(8\sqrt{3} - \sqrt{2})(8\sqrt{3} + \sqrt{2})$$

$$\alpha^{2} - b^{2}$$

$$= (8\sqrt{3})^{2} - (\sqrt{2})^{2}$$

$$= 8^{2} \cdot (\sqrt{3})^{2} - (\sqrt{2})^{2}$$

$$= 64 \cdot 3 - 2 = 192 - 2 = 190$$

Simplify.

$$(6+2\sqrt{11})(6-2\sqrt{11})$$

$$a^{2}-b^{2}$$

$$=(6)^{2}-(2\pi)^{2}$$

$$=36-2\cdot(\pi)^{2}$$

$$=36-4\cdot 11=36-44=-8$$

Rationalize this denominator:

$$\frac{24 + \sqrt{6}}{\sqrt{12}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{24\sqrt{3} + \sqrt{18} - \sqrt{9.2}}{\sqrt{6}}$$

$$= \frac{24\sqrt{3} + \sqrt{3}\sqrt{2}}{\sqrt{6}}$$

$$= \frac{24\sqrt{3} + \sqrt{3}\sqrt{2}}{\sqrt{6}}$$

$$= \frac{8\sqrt{3} + \sqrt{2}}{\sqrt{2}}$$

Rationalize the denominator.

$$\frac{24}{2 - \sqrt{7}}$$

To rationalize a denominator involving a sum or difference involving square roots you multiply the numerator and denominator by the

Conjugate of the Denominator.

$$\frac{24}{2 - \sqrt{7}} \cdot \frac{2 + \sqrt{7}}{2 + \sqrt{7}} = \frac{24(2 + \sqrt{7})}{-3} = -8$$

$$(2)^{2} - (\sqrt{7})^{2} = -8(2 + \sqrt{7})$$

$$= 4 - 7 = -3$$

Rationalize the denominator. Simplify if possible.
$$5 + \sqrt{3}$$

$$5 + \sqrt{3}$$

$$6 + 2$$

$$6 - 2$$

$$6 - 2$$

$$6 - 2$$

$$6 - 2$$

$$6 - 2$$

$$6 - 2$$

$$6 - 2$$

$$10 - 2 - 3$$

$$10 - 2 - 3$$

$$10 - 2 - 3$$

$$10 - 2 - 3$$

$$10 - 2 - 3$$

$$10 - 2 - 3$$

$$10 - 2 - 3$$

$$10 - 2 - 3$$

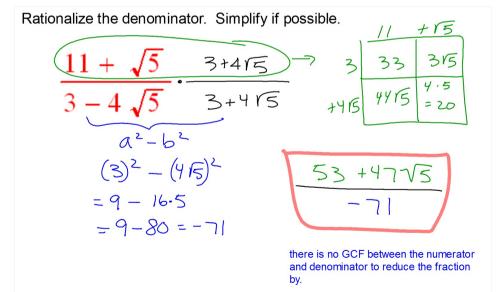
$$10 - 2 - 3$$

$$10 - 2 - 3$$

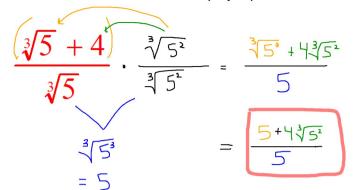
$$10 - 2 - 3$$

$$10 - 2 - 3$$
there is no GCF between the numerator and denominator to reduce the fraction by.

Rationalize the denominator. Simplify if possible.



Rationalize the denominator. Simplify if possible.



You can now finish Hwk #37

Sec 7-3

Due Monday

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Problems 23-25, 40, 42, 44