

Warm - Up
4/12

Simplify

$$\begin{aligned}\sqrt{6}(3+\sqrt{2}) &= 3\sqrt{6} + \sqrt{6}\cdot\sqrt{2} \\ &= 3\sqrt{6} + \sqrt{12} \\ &\quad + \sqrt{4}\sqrt{3} \\ &= 3\sqrt{6} + 2\sqrt{3}\end{aligned}$$

4.3.5
p. 118

Distribution with Two-Term Radical Factors

Simplify

$$(1 + \sqrt{2})(2 + \sqrt{2})$$

	1	$\sqrt{2}$	
2	2	$2\sqrt{2}$	<u>$2 + 2\sqrt{2} + 1\sqrt{2} + \sqrt{4}$</u>
$\sqrt{2}$	$\sqrt{2}$	$\sqrt{4}$	

$$2 + 3\sqrt{2} + \sqrt{4}$$

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

$$\begin{array}{l} 2 + 2 + 3\sqrt{2} \\ \hline 4 + 3\sqrt{2} \end{array}$$

Simplify

$$(1 - \sqrt{6})(\sqrt{3} - \sqrt{2})$$

$$1 \cdot \sqrt{3} + 1 \cdot \sqrt{2} + \sqrt{6} \cdot \sqrt{3} + \sqrt{6} \cdot \sqrt{2}$$

$$\sqrt{3} - \sqrt{2} - \sqrt{18} + \sqrt{12}$$

$$19 \cdot \sqrt{2} + 14 \cdot \sqrt{3}$$

$$\sqrt{3} - \sqrt{2} - 3\sqrt{2} + 2\sqrt{3}$$

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

Simplify

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

$$(3 - \sqrt{3})(3 - \sqrt{3})$$

	3	$-\sqrt{3}$
\approx	9	$-3\sqrt{3}$
\approx	$-3\sqrt{3}$	9

$$9 + -3\sqrt{3} + -3\sqrt{3} + 9$$

$$9 + -6\sqrt{3} + 9$$

$$9 + -6\sqrt{3} + 3$$

$$9 + 3 + -6\sqrt{3}$$

$$12 - 6\sqrt{3}$$

Simplify

$$(1 - \sqrt{2})(2 + \sqrt{2})$$

Simplify

$$(\sqrt{10} + \sqrt{2})^2$$

Simplify

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

Homework (due Wed)
p. 119 (29 - 37)