8.4 Adding and Subtracting Radical Expressions
Exercises 11, 17, 21, 25, 29, 37, 49-57odd
8.5 Multiplying and Dividing Radical Expressions
Exercises 13, 15, 21-29 odd, 49, 51, 61, 71, 73, 83, 86, 89, 99, 105

Note Title 5/17/2016

11. $\sqrt[4]{32} + 3\sqrt[4]{2}$

$2^{5/4} +$

$2^{4/4} \cdot 2^{1/4} +$

$2\sqrt[4]{2} + 3\sqrt[4]{2} = 5\sqrt[4]{2}$

17. $2\sqrt{5} + 3\sqrt{20} + 4\sqrt{45}$

$2\sqrt{5} + 3\sqrt{4}\sqrt{5} + 4\sqrt{9}\sqrt{5}$

$2\sqrt{5} + 3 \cdot 2\sqrt{5} + 4 \cdot 3\sqrt{5}$

$2\sqrt{5} + 6\sqrt{5} + 12\sqrt{5} = 20\sqrt{5}$

57. $3\sqrt[3]{\frac{2}{x^6}} - 4\sqrt[3]{\frac{5}{x^9}}$

$3 \cdot 2^{1/3} \cdot x^{-6/3} - 4 \cdot 5^{1/3} \cdot x^{-9/3}$

$x^{-2} \qquad x^{-3}$

$\frac{3 \cdot x\sqrt[3]{2}}{x^2 \cdot x} - \frac{4\sqrt[3]{5}}{x^3}$

$\frac{1}{x^3}\left(3x\sqrt[3]{2} - 4\sqrt[3]{5}\right)$

25. $2\sqrt[3]{27x} - 2\sqrt[3]{8x}$

$2\sqrt[3]{3^3 x} - 2\sqrt[3]{2^3 x}$

$2 \cdot 3\sqrt[3]{x} - 2 \cdot 2\sqrt[3]{x}$

$6\sqrt[3]{x} - 4\sqrt[3]{x} = 2\sqrt[3]{x}$

8.5

13. $(\sqrt{2}-\sqrt{3})(\sqrt{2}+\sqrt{3}) = 2+\sqrt{6}-\sqrt{6}-3 = -1$

27. $(2+\sqrt[3]{6})(2-\sqrt[3]{6}) = 4-2\sqrt[3]{6}+2\sqrt[3]{6}-\sqrt[3]{6^2}$

$4-\sqrt[3]{36}$

61. $-\sqrt[2]{\frac{150m^5}{n^3}} \rightarrow \frac{-\sqrt{25}\sqrt{6}\sqrt{m^4}\sqrt{m}}{\sqrt{n^2}\sqrt{n}} \rightarrow \frac{-5m^2\sqrt{6m}}{n\sqrt{n}}\cdot\frac{\sqrt{n}}{\sqrt{n}}$

$\rightarrow \frac{-5m^2\sqrt{6mn}}{n^2}$

71. $\sqrt[3]{\frac{4}{9}} = \frac{\sqrt[3]{2^2}}{\sqrt[3]{3^2}}\cdot\frac{\sqrt[3]{3}}{\sqrt[3]{3}} \rightarrow \frac{\sqrt[3]{2^2\cdot 3}}{\sqrt[3]{3^3}}$ or $\frac{\sqrt[3]{12}}{3}$