

HW 7

p20

65. a) 3

b) $\frac{3}{2}$

66. a) $\sqrt[3]{27} = 3$

b) $(\sqrt[3]{36})^3 = 36 = 2 \cdot 18$

67. a) $\frac{1}{(\sqrt[3]{32})^3} = \frac{1}{8}$

b) $\left(\frac{81}{16}\right)^{3/4} = \left(\frac{4\sqrt[4]{81}}{4\sqrt[4]{16}}\right)^3 = \left(\frac{3}{2}\right)^3 = \frac{27}{8}$

77. a) $2^{5/5} = 2^1 = 2$

b) $96 = 2 \times (5\sqrt[3]{3})$

$$\begin{array}{c} \wedge \\ 3 \quad 32 \\ \wedge \\ 8 \quad 4 \\ \wedge \quad \wedge \\ 2 \quad 4 \quad 2 \quad 2 \\ \wedge \quad \wedge \\ 2 \quad 2 \end{array}$$

78. a) $\sqrt{36} = 6$

b) $3x^2$

79. a) $\sqrt{20} = \sqrt{4} \sqrt{5} = 2\sqrt{5}$

b) $128 = 4(\sqrt[3]{2})$

$$\begin{array}{c} \wedge \\ 2 \quad 64 \\ \wedge \\ 8 \quad 8 \\ \wedge \quad \wedge \\ 4 \quad 2 \quad 4 \quad 2 \\ \wedge \quad \wedge \\ 2 \quad 2 \end{array}$$

81. a) $6x\sqrt{2x}$

b) $\frac{\sqrt{18^2}}{\sqrt{2^3}} = \frac{18}{2\sqrt{2}}$

85. a) $10\sqrt{2} + 24\sqrt{2} = 34\sqrt{2}$

b) $40\sqrt{2} - 18\sqrt{2} = 22\sqrt{2}$

86. a) $2\sqrt{3} - 5\sqrt{3} = -3\sqrt{3}$

b) $2\sqrt[3]{2} + 9\sqrt[3]{2} = 11\sqrt[3]{2}$

95. $\frac{1}{\sqrt{3}} \left(\frac{\sqrt{3}}{\sqrt{3}}\right) = \frac{\sqrt{3}}{3}$

96. $\frac{8}{\sqrt[3]{2}} \left(\frac{\sqrt[3]{2}}{\sqrt[3]{2}}\right) = \frac{8\sqrt[3]{2}}{2}$
 $= 4\sqrt[3]{2}$