

$$56. \frac{3^5 \cdot 2^6}{3^3 \cdot 2^5} = 3^{5-3} \cdot 2^{6-5} = 3^2 \cdot 2 = 9 \cdot 2 = 18$$

$$57. \frac{(5 \cdot 2 \cdot 3)^4}{3^2 \cdot 2^4 \cdot 5^3} = \frac{5^4 \cdot 2^4 \cdot 3^4}{3^2 \cdot 2^4 \cdot 5^3} = 5^{4-3} \cdot 2^{4-4} \cdot 3^{4-2} = 5^1 \cdot 1 \cdot 3^2 = \frac{9}{5}$$

$$58. \frac{6^5}{3^3 \cdot 2^5} = \frac{(3 \cdot 2)^5}{3^3 \cdot 2^5} = \frac{3^5 \cdot 2^5}{3^3 \cdot 2^5} = 3^{5-3} \cdot 2^{5-5} = 3^2 \cdot 1 = 9$$

$$59. \frac{4^3 \cdot 2^4 \cdot 6^4}{(4 \cdot 2 \cdot 6)^3} = \frac{4^3 \cdot 2^4 \cdot 6^4}{4^3 \cdot 2^3 \cdot 6^3} = 4^{3-3} \cdot 2^{4-3} \cdot 6^{4-3} = 1 \cdot 2 \cdot 6 = 12$$

$$60. \frac{(xy)^4}{(yz)^3} = \frac{x^4 \cdot y^4}{y^3 \cdot z^3} = \frac{x^4 \cdot y^{4-3}}{z^3} = \frac{x^4 \cdot y}{z^3}$$

$$61. \frac{a^3 \cdot b^8 \cdot c^{15}}{a^4 \cdot b^7 \cdot c^{10}} = a^{3-4} \cdot b^{8-7} \cdot c^{15-10} = a^{-1} \cdot b \cdot c^5 = \frac{b \cdot c^5}{a}$$

$$62. \frac{(a \cdot b \cdot c)^7}{a^7 \cdot b^{10} \cdot c^{14}} = \frac{a^7 \cdot b^7 \cdot c^7}{a^7 \cdot b^{10} \cdot c^{14}} = a^{7-7} \cdot b^{7-10} \cdot c^{7-14} = 1 \cdot b^{-3} \cdot c^{-7} = \frac{1}{b^3 \cdot c^7}$$

$$63. \frac{12^6}{3^4 \cdot 2^{10}} = \frac{(3 \cdot 4)^6}{3^4 \cdot 2^{10}} = \frac{(3 \cdot 2^2)^6}{3^4 \cdot 2^{10}} = \frac{3^6 \cdot 2^{12}}{3^4 \cdot 2^{10}} = \frac{3^2 \cdot 2^2}{3^0 \cdot 2^0} = 3^2 \cdot 2^2 = 9 \cdot 4 = 36$$

$$64. \frac{36^7}{3^{13} \cdot 2^{11}} = \frac{(4 \cdot 9)^7}{3^{13} \cdot 2^{11}} = \frac{(2^2 \cdot 3^2)^7}{3^{13} \cdot 2^{11}} = \frac{2^{14} \cdot 3^{14}}{3^{13} \cdot 2^{11}} = \frac{2^{14-11} \cdot 3^{14-13}}{3^0 \cdot 2^0} = 2^3 \cdot 3^1 = 8 \cdot 3 = 24$$