

2.2

$$36. \quad 8^{\frac{2}{3}} \quad \sqrt[3]{8^2}$$

$$8^{\frac{1}{3}} \quad \sqrt[6]{64}$$

$$\sqrt[3]{8^1} \quad \underbrace{2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2}_{64}$$

$$2 \quad 64$$

$$\underbrace{2 \cdot 2 \cdot 2}_8 \quad \sqrt[3]{2^3 \cdot 2^3} \quad \sqrt[3]{8} = 2$$

$$\sqrt{25} \quad 25^{\frac{1}{2}}$$

$$\sqrt[4]{16} \quad \sqrt[5]{32}$$

$$37. \quad 25^{\frac{3}{2}}$$

$$\sqrt{25^3} \quad (\sqrt{25})^3$$

$$5^3$$

$$125$$

$$38. \quad 81^{-\frac{3}{2}}$$

$$\frac{1}{81^{\frac{3}{2}}}$$

$$\frac{1}{(\sqrt{81})^3}$$

$$\frac{1}{9^3}$$

$$\frac{9}{81^{\frac{3}{2}}}$$

$$\frac{1}{729}$$

$$\frac{1}{729}$$

$$32. \quad 27^{\frac{2}{3}}$$

$$\sqrt[3]{27^2}$$

$$(\sqrt[3]{27})^2$$

$$(3)^2$$

$$9$$

$$21. \quad (5a)^0$$

$$1$$

$$5a^0$$

$$5(1)$$

$$5$$

$$41. -2y^3(5xy^4)$$

$$-10xy^7$$

$$45. \frac{x^2 x^{-5}}{x^4}$$

$$\frac{x^{-3}}{x^4}$$

$$\frac{\frac{1}{x^3}}{\frac{x^4}{1}}$$

$$\frac{1}{x^7}$$

$$x^{-3-4}$$

$$\frac{1}{x^3} \cdot \frac{1}{x^4}$$

$$x^{-7}$$

$$\frac{1}{x^7}$$

$$\frac{1}{x^7}$$

$$58. \left(\frac{x^{-2}y^1}{y^{-1}} \right)^{-3}$$

$$(x^{-2}y^2)^{-3}$$

$$\frac{x^6 y^{-3}}{y^3}$$

$$x^6 y^{-6}$$

$$x^6 \cdot \frac{1}{y^6}$$

$$\frac{x^6}{y^6}$$

$$x^6 y^{-3-3}$$

$$x^6 y^{-6}$$

$$\frac{x^6}{1} \cdot \frac{1}{y^6}$$

$$\frac{x^6}{y^6}$$

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

$$2x^3$$

$$\frac{2}{\frac{1}{x^3}}$$

$$2 \cdot x^3$$

$$2x^3$$

$$\frac{x^{-4}}{y^{-3}}$$

$$\frac{\frac{1}{x^4}}{\frac{1}{y^3}}$$

$$\frac{1}{x^4} \cdot \frac{y^3}{1}$$

$$\frac{y^3}{x^4}$$

$$52. \left(\frac{2b^4}{-a^2} \right)^3$$

$$\frac{2^3 b^{12}}{-a^6}$$

$$- \frac{2^3 b^{12}}{a^6}$$

$$- \frac{8b^{12}}{a^6}$$

$$\frac{30}{-5}$$

$$-6$$

$$\frac{-30}{5}$$

$$-6$$

$$\sqrt{\frac{2}{-8}}$$

$$-\frac{1}{4}$$

$$-\frac{1}{4}$$

$$48. (3st^{12})^3$$

$$27s^3t^{36}$$

$$54. \left(\frac{3m^2n^3}{m^{-1}} \right)^5$$

$$\frac{3^5 m^{10} n^{15}}{m^{-5}}$$

$$243 m^{15} n^{15}$$

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$$61. \left(\frac{4a^3 b^{-3}}{a^{-1} b^2} \right)^{-2}$$

$$\frac{4^{-2} a^{-6} b^6}{a^2 b^{-4}}$$

$$4^{-2} a^{-8} b^{10}$$

$$\frac{1}{4^2} \cdot \frac{1}{a^8} \cdot \frac{b^{10}}{1}$$

$$\frac{b^{10}}{16a^8}$$

$$68. \left[\left(\frac{x^5 y^2}{x^{-3} y^1} \right)^{-2} \left(\frac{y^{-3}}{2x^5} \right)^3 \right]^{-1}$$

$$\left[(x^8 y)^{-2} \left(\frac{y^{-3}}{2x^5} \right)^3 \right]^{-1}$$

$$\left[\left(\frac{x^{-16} y^{-2}}{1} \right) \left(\frac{y^{-9}}{2^3 x^{15}} \right) \right]^{-1}$$

$$\left[\left(\frac{1}{x^{16} y^2} \right) \left(\frac{1}{8x^{15} y^9} \right) \right]^{-1}$$

$$\left[\frac{1}{8x^{31} y^{11}} \right]^{-1}$$

$$a^{-1}$$

$$\frac{1}{a^1}$$

$$\frac{1}{\frac{1}{8x^{31} y^{11}}}$$

$$8x^{31} y^{11}$$