

$$2^5 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$$

$$2^3 = 2 \cdot 2 \cdot 2$$

$$2^1 = 2$$

$$2^{-3} = ? \frac{1}{2^3}$$

$$3^3 \cdot 3^4 = 3^{3+4} = 3^7$$

$$5^3 \cdot 5^4 = 5^{3+4} = 5^7$$

$$(-3)^3 \cdot (-3)^4 = ? \quad (-3)^7 = -3^7$$

$$(-5)^{-6} \cdot (-5)^8 = ? \quad (-5)^2 = 5^2$$

$$\frac{4^3}{4^6} = 4^{-3} = \frac{1}{4^3}$$

$$\frac{4^2 \cdot 4^3}{4^6} = \frac{4^{2+3}}{4^6} = \frac{4^5}{4^6} = 4^{5-6} = 4^{-1} = \frac{1}{4}$$

$$\frac{4^1 \cdot 4^3}{4^6} = ? \quad 4^{1+3} = \frac{4^4}{4^6} = 4^{4-6} = 4^{-2} = \frac{1}{4^2}$$

$$\frac{2^{-3}}{2^4 \cdot 2^{-2}} = \frac{2^{-3}}{2^2} = 2^{-3-2} = 2^{-5} = \frac{1}{2^5}$$

$$\frac{1}{2^2 \cdot 2^3} = \frac{1}{2^5}$$

$$\frac{\left(\frac{1}{3}\right)^{-3}}{\left(\frac{1}{3}\right)^4 \left(\frac{1}{3}\right)^{-2}} = \frac{\left(\frac{1}{3}\right)^{-3}}{\left(\frac{1}{3}\right)^2} = \left(\frac{1}{3}\right)^{-5} = \frac{1^{-5}}{3^{-5}} = \frac{3^5}{1^{-5}} = 3^5$$

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

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

$$\frac{x^8}{1} \cdot \frac{1}{x^3} = \frac{x^8}{x^3} = x^5$$

$$\frac{4}{1} \cdot \frac{1}{2} = \frac{4}{2} = 2$$

$$(2^1 x^3)^5 = 2^5 x^{15}$$

$$(3^3 \times y^5)^{10} = 3^{30} \times^{10} y^{50}$$

$$\frac{x^5 y^2}{x^4 y^0} = x y^2$$

$$x^{5-4} = x^1$$

$$y^{2-0} = y^2$$

$$\frac{x^{-1}y}{xy^{-2}} = x^{-2}y^3 = \frac{y^3}{x^2}$$

$$x^{-1-1} = x^{-2}$$

$$y^{1-2} = y^{-1}$$

$$\frac{\cancel{2}x^2y}{\cancel{6}xy^{-1}} = \frac{xy^2}{3}$$

$$\frac{2}{6} = \frac{1}{3}$$

$$x^{2-1} = x$$

$$y^{1-1} = y^0 = 1$$

$$\frac{12x^1y^1}{7x^4} \cdot \frac{7x^5y^2}{4y}$$

$$\frac{\overset{4 \cdot 3}{\cancel{12}} \cdot \cancel{7} x^6 y^3}{\cancel{7} \cdot \cancel{4} x^4 y} = 3x^2y^2$$

$$x^{6-4} = x^2$$

$$y^{3-1} = y^2$$