



Simplifier les exposants de fractions (Division)

Nom: _____

Date: _____ Note: _____

$$\frac{\left(\frac{1}{4}\right)^4 \cdot \left(\frac{1}{4}\right)^{-5} \cdot \left(\frac{1}{4}\right)^{-8} \cdot \left(\frac{1}{4}\right)^8}{\left(\frac{1}{4}\right)^8 \cdot \left(\frac{1}{4}\right)^5}$$

$$\frac{\left(\frac{4}{9}\right)^5 \cdot \left(\frac{4}{9}\right)^{-8} \cdot \left(\frac{4}{9}\right) \cdot \left(\frac{4}{9}\right)^{-4}}{\left(\frac{4}{9}\right)^2 \cdot \left(\frac{4}{9}\right)^4}$$

$$\frac{\left(\frac{4}{5}\right)^{-10} \cdot \left(\frac{4}{5}\right)^7 \cdot \left(\frac{4}{5}\right)^{10}}{\left(\frac{4}{5}\right)^4}$$

$$\frac{\left(\frac{1}{9}\right)^9 \cdot \left(\frac{1}{9}\right)^7 \cdot \left(\frac{1}{9}\right)^4}{\left(\frac{1}{9}\right)^{-10}}$$

$$\frac{\left(\frac{2}{9}\right)^{-8} \cdot \left(\frac{2}{9}\right)^2 \cdot \left(\frac{2}{9}\right)^{-2} \cdot \left(\frac{2}{9}\right)^{-4}}{\left(\frac{2}{9}\right)^3 \cdot \left(\frac{2}{9}\right)^4}$$

$$\frac{\left(\frac{1}{9}\right)^{-9} \cdot \left(\frac{1}{9}\right)^{-9} \cdot \left(\frac{1}{9}\right)^2}{\left(\frac{1}{9}\right)^{-3}}$$

$$\frac{\left(\frac{1}{9}\right)^{-10} \cdot \left(\frac{1}{9}\right)^{-9} \cdot \left(\frac{1}{9}\right)^8 \cdot \left(\frac{1}{9}\right)^6}{\left(\frac{1}{9}\right)^{-4} \cdot \left(\frac{1}{9}\right)^{-9}}$$

$$\frac{\left(\frac{2}{5}\right)^{-5} \cdot \left(\frac{2}{5}\right)^7 \cdot \left(\frac{2}{5}\right)^{-2}}{\left(\frac{2}{5}\right)^{-10}}$$

$$\frac{\left(\frac{3}{7}\right)^{-5} \cdot \left(\frac{3}{7}\right)^9 \cdot \left(\frac{3}{7}\right)^{-8} \cdot \left(\frac{3}{7}\right)^2}{\left(\frac{3}{7}\right)^3 \cdot \left(\frac{3}{7}\right)^{-6}}$$

$$\frac{\left(\frac{4}{5}\right)^{11} \cdot \left(\frac{4}{5}\right)^{-9} \cdot \left(\frac{4}{5}\right)^5 \cdot \left(\frac{4}{5}\right)^5}{\left(\frac{4}{5}\right)^{-9} \cdot \left(\frac{4}{5}\right)^3}$$

$$\frac{\left(\frac{4}{5}\right)^{-1} \cdot \left(\frac{4}{5}\right)^{-5} \cdot \left(\frac{4}{5}\right)^{-5}}{\left(\frac{4}{5}\right)}$$

$$\frac{\left(\frac{4}{9}\right)^9 \cdot \left(\frac{4}{9}\right)^2 \cdot \left(\frac{4}{9}\right)^9}{\left(\frac{4}{9}\right)^{10}}$$

$$\frac{\left(\frac{2}{5}\right)^5 \cdot \left(\frac{2}{5}\right)^{-2} \cdot \left(\frac{2}{5}\right)^{-6} \cdot \left(\frac{2}{5}\right)^{10}}{\left(\frac{2}{5}\right)^{-10} \cdot \left(\frac{2}{5}\right)^{-1}}$$

$$\frac{\left(\frac{1}{9}\right)^{-1} \cdot \left(\frac{1}{9}\right)^9 \cdot \left(\frac{1}{9}\right)^{-2} \cdot \left(\frac{1}{9}\right)^{-7}}{\left(\frac{1}{9}\right)^{-2} \cdot \left(\frac{1}{9}\right)^{-7}}$$

$$\left(\frac{2}{5}\right)^7 \cdot \left(\frac{2}{5}\right)^6 \cdot \left(\frac{2}{5}\right)$$



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$$\frac{\left(\frac{1}{4}\right)^4 \cdot \left(\frac{1}{4}\right)^{-5} \cdot \left(\frac{1}{4}\right)^{-8} \cdot \left(\frac{1}{4}\right)^8}{\left(\frac{1}{4}\right)^8 \cdot \left(\frac{1}{4}\right)^5} \quad \left(\frac{1}{4}\right)^{-14}$$

$$\frac{\left(\frac{4}{9}\right)^5 \cdot \left(\frac{4}{9}\right)^{-8} \cdot \left(\frac{4}{9}\right) \cdot \left(\frac{4}{9}\right)^{-4}}{\left(\frac{4}{9}\right)^2 \cdot \left(\frac{4}{9}\right)^4} \quad \left(\frac{4}{9}\right)^{-12}$$

$$\frac{\left(\frac{4}{5}\right)^{-10} \cdot \left(\frac{4}{5}\right)^7 \cdot \left(\frac{4}{5}\right)^{10}}{\left(\frac{4}{5}\right)^4} \quad \left(\frac{4}{5}\right)^3$$

$$\frac{\left(\frac{1}{9}\right)^9 \cdot \left(\frac{1}{9}\right)^7 \cdot \left(\frac{1}{9}\right)^4}{\left(\frac{1}{9}\right)^{-10}} \quad \left(\frac{1}{9}\right)^{30}$$

$$\frac{\left(\frac{2}{9}\right)^{-8} \cdot \left(\frac{2}{9}\right)^2 \cdot \left(\frac{2}{9}\right)^{-2} \cdot \left(\frac{2}{9}\right)^{-4}}{\left(\frac{2}{9}\right)^3 \cdot \left(\frac{2}{9}\right)^4} \quad \left(\frac{2}{9}\right)^{-19}$$

$$\frac{\left(\frac{1}{9}\right)^{-9} \cdot \left(\frac{1}{9}\right)^{-9} \cdot \left(\frac{1}{9}\right)^2}{\left(\frac{1}{9}\right)^{-3}} \quad \left(\frac{1}{9}\right)^{-13}$$

$$\frac{\left(\frac{1}{9}\right)^{-10} \cdot \left(\frac{1}{9}\right)^{-9} \cdot \left(\frac{1}{9}\right)^8 \cdot \left(\frac{1}{9}\right)^6}{\left(\frac{1}{9}\right)^{-4} \cdot \left(\frac{1}{9}\right)^{-9}} \quad \left(\frac{1}{9}\right)^8$$

$$\frac{\left(\frac{2}{5}\right)^{-5} \cdot \left(\frac{2}{5}\right)^7 \cdot \left(\frac{2}{5}\right)^{-2}}{\left(\frac{2}{5}\right)^{-10}} \quad \left(\frac{2}{5}\right)^{10}$$

$$\frac{\left(\frac{3}{7}\right)^{-5} \cdot \left(\frac{3}{7}\right)^9 \cdot \left(\frac{3}{7}\right)^{-8} \cdot \left(\frac{3}{7}\right)^2}{\left(\frac{3}{7}\right)^3 \cdot \left(\frac{3}{7}\right)^{-6}} \quad \left(\frac{3}{7}\right)$$

$$\frac{\left(\frac{4}{5}\right)^{11} \cdot \left(\frac{4}{5}\right)^{-9} \cdot \left(\frac{4}{5}\right)^5 \cdot \left(\frac{4}{5}\right)^5}{\left(\frac{4}{5}\right)^{-9} \cdot \left(\frac{4}{5}\right)^3} \quad \left(\frac{4}{5}\right)^{18}$$

$$\frac{\left(\frac{4}{5}\right)^{-1} \cdot \left(\frac{4}{5}\right)^{-5} \cdot \left(\frac{4}{5}\right)^{-5}}{\left(\frac{4}{5}\right)} \quad \left(\frac{4}{5}\right)^{-12}$$

$$\frac{\left(\frac{4}{9}\right)^9 \cdot \left(\frac{4}{9}\right)^2 \cdot \left(\frac{4}{9}\right)^9}{\left(\frac{4}{9}\right)^{10}} \quad \left(\frac{4}{9}\right)^{10}$$

$$\frac{\left(\frac{2}{5}\right)^5 \cdot \left(\frac{2}{5}\right)^{-2} \cdot \left(\frac{2}{5}\right)^{-6} \cdot \left(\frac{2}{5}\right)^{10}}{\left(\frac{2}{5}\right)^{-10} \cdot \left(\frac{2}{5}\right)^{-1}} \quad \left(\frac{2}{5}\right)^{18}$$

$$\frac{\left(\frac{1}{9}\right)^{-1} \cdot \left(\frac{1}{9}\right)^9 \cdot \left(\frac{1}{9}\right)^{-2} \cdot \left(\frac{1}{9}\right)^{-7}}{\left(\frac{1}{9}\right)^{-2} \cdot \left(\frac{1}{9}\right)^{-7}} \quad \left(\frac{1}{9}\right)^8$$

$$\left(\frac{2}{5}\right)^7 \cdot \left(\frac{2}{5}\right)^6 \cdot \left(\frac{2}{5}\right) \quad \left(\frac{2}{5}\right)^{14}$$