

TAREA N°2: POTENCIACIÓN Y RADICACIÓN

1. Simplifique las siguientes expresiones matemáticas utilizando las propiedades de la potenciación y radicación.

$$\bullet \sqrt[3]{46656} + \left[\sqrt{\left(\frac{4}{10} + 0.09\right) \times 0.016 \times 0.064} \right]^{-2}$$

$$\bullet \frac{\left(\frac{2}{3}\right)^5 \left(\frac{2}{3}\right)^0 \left(\frac{2}{3}\right)^{-3} \left(\frac{81}{16}\right)^{-2}}{\left(\frac{3}{2}\right)^{-5} \left(\frac{2}{3}\right) \left[\left(\frac{2}{3}\right)^5\right]^2 \left(\frac{8}{27}\right)^3}$$

$$\bullet \frac{\left(2 - \frac{1}{5}\right)^2}{\left(3 - \frac{2}{9}\right)^{-1}} : \frac{\left(\frac{6}{7} \cdot \frac{5}{4} - \frac{2}{7} : \frac{1}{2}\right)^3}{\left(\frac{1}{2} - \frac{1}{3} \cdot \frac{1}{4} : \frac{1}{5}\right)} - 5\frac{1}{7}$$

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

$$\bullet \frac{3}{4}\sqrt{176} - \frac{2}{3}\sqrt{45} + \frac{1}{8}\sqrt{320} + \frac{1}{5}\sqrt{275}$$

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

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

$$\bullet (5-3)^4 \div 4 + \left\{ \sqrt{6^2 - 20} + \sqrt{5 \times 4 + 16} + (8-4)^2 \times 3 \right\}$$

$$\bullet \sqrt{\frac{\sqrt[3]{27} + \sqrt{49} + \sqrt{4}}{\sqrt[3]{125} - \sqrt[3]{8}}}$$

$$\bullet \sqrt{\left[\frac{3^3 - \sqrt{121}}{\sqrt{81} + 14 \div 2}\right]^5 + \sqrt[7]{4^7} + 2^2}$$

$$\bullet \sqrt[3]{2^4} + \sqrt[3]{5^3 \cdot 2} + \sqrt[3]{2} - \frac{\sqrt[3]{2}}{\sqrt[3]{2^2} \cdot \sqrt[3]{2}}$$

2. Racionalice las siguientes expresiones.

$$\frac{10}{\sqrt{20}} \quad ; \quad \frac{8}{3+\sqrt{7}} \quad ; \quad \frac{2}{\sqrt[4]{8}} \quad ; \quad \frac{3+\sqrt{5}}{2-\sqrt{5}} \quad ; \quad \frac{3}{\sqrt{7}} \quad ; \quad \frac{5}{\sqrt[5]{3^2}} \quad ; \quad \frac{\sqrt{5}-\sqrt{7}}{\sqrt{5}+3\sqrt{7}}$$