

إجابات تدريبات الدرس

قوانين الأسس (2)

تدريب (٥ - ٨)

$$\sqrt[2]{\frac{343}{1331}} \quad \text{(ب)}$$

$$\sqrt[2]{\frac{169}{196}} \quad \text{(د)}$$

$$\sqrt{18} \times \sqrt{8} \quad \text{(أ)}$$

$$\sqrt[3]{20} \times \sqrt[3]{40} \quad \text{(ج)}$$

الحل :

$$12 = \sqrt{144} = \sqrt[2]{(144)} = \sqrt[2]{(18 \times 8)} = \sqrt[2]{(18)} \times \sqrt[2]{(8)} = \sqrt{18} \times \sqrt{8} \quad \text{(أ)}$$

☆ حل آخر :

$$12 = \sqrt{144} = \sqrt{18 \times 8} = \sqrt{18} \times \sqrt{8}$$

$$\sqrt[2]{\frac{343}{1331}} = \sqrt[2]{\left(\frac{7}{11}\right)^3} = \sqrt[2]{\left(\frac{7}{11}\right)^2 \cdot \left(\frac{7}{11}\right)} = \frac{7}{11} \sqrt{\frac{7}{11}} = \frac{7}{11} \sqrt[3]{\frac{7}{11}} = \sqrt[3]{\frac{343}{1331}} \quad \text{(ب)}$$

$$10 = \sqrt[3]{1000} = \sqrt[3]{(1000)} = \sqrt[3]{(20 \times 40)} = \sqrt[3]{(20)} \times \sqrt[3]{(40)} = \sqrt[3]{20} \times \sqrt[3]{40} \quad \text{(ج)}$$

☆ حل آخر :

$$10 = \sqrt[3]{1000} = \sqrt[3]{20 \times 40} = \sqrt[3]{20} \times \sqrt[3]{40}$$

$$\frac{13}{14} = \frac{\sqrt{169}}{\sqrt{196}} = \sqrt{\frac{169}{196}} \quad \text{(د)}$$

تدريب (٥ - ٩)

جد قيمة كل مما يأتي بأبسط صورة :

(ب) $\sqrt[2]{\frac{24}{375}}$

(أ) $\sqrt[5]{\frac{32}{243}} \times \sqrt[2]{\frac{729}{64}}$

(ج) $\left(\sqrt[4]{\left(\frac{125}{45} \right)^8} \right) \times \sqrt[3]{64}$

الحل :

(أ) $\sqrt[5]{\frac{2^5}{3^5}} \times \sqrt[2]{\frac{3^6}{2^6}} = \sqrt[5]{\frac{32}{243}} \times \sqrt[2]{\frac{729}{64}}$

$\sqrt[5]{\left(\frac{2}{3}\right)^5} \times \sqrt[2]{\left(\frac{9}{4}\right)^2} =$

$\frac{2}{3} = \frac{18}{12} = \frac{2}{3} \times \frac{9}{4} =$

لفهم درس الأسس النسبية (2) ، شاهد الفيديو

(ب) $\sqrt[2]{\frac{24}{375}} = \sqrt[2]{\frac{2 \times 2 \times 2}{5 \times 5 \times 5}} = \sqrt[2]{\frac{2 \times 2 \times 2 \times 3}{5 \times 5 \times 5 \times 3}} = \sqrt[2]{\frac{24}{375}}$

$\frac{2}{5} = \sqrt[2]{\left(\frac{2}{5}\right)^2} =$

(ج) $\left(\sqrt[4]{\frac{125}{45}} \right)^8 = \left(\sqrt[4]{\frac{5 \times 5 \times 5}{3 \times 3}} \right)^8 = \left(\sqrt[4]{\frac{5 \times 5 \times 5 \times 5}{3 \times 3 \times 5}} \right)^8 = \left(\sqrt[4]{\frac{125}{45}} \right)^8$

$\frac{5}{3} = \sqrt[8]{\left(\frac{5}{3}\right)^8} = \sqrt[8]{\frac{5^8}{3^8}} = \sqrt[8]{\left(\frac{5}{3}\right)^8} = \left(\sqrt[2]{\left(\frac{5}{3}\right)^4} \right)^2 =$

(د) $32 = 8 \times 4 = \sqrt[3]{64} \times \sqrt[2]{64}$