

PROBLEMAS DE EXPRESIONES ALGEBRAICAS Y OPERACIONES

Problema 35:

Efectuar las operaciones siguientes:

$$A) \left(1\frac{3}{4}\right)^{\frac{-1}{2}} \times \left(\frac{8}{11}\right)^{\frac{1}{2}} \times (11)^{\frac{1}{2}} \times \left(\frac{2}{7}\right)^{\frac{1}{2}}$$

$$B) a^{\frac{3}{4}} \times a^{\frac{5}{3}}$$

$$C) a^{\frac{-1}{2}} \times a^{\frac{7}{4}} \times a^{\frac{-1}{5}}$$

$$D) a^{\frac{-3}{4}} \times b^{-2} \times a^{\frac{5}{6}} \times b^{\frac{1}{2}} \times c$$

Solución Problema 35:

$$A) \left(1\frac{3}{4}\right)^{\frac{-1}{2}} \times \left(\frac{8}{11}\right)^{\frac{1}{2}} \times (11)^{\frac{1}{2}} \times \left(\frac{2}{7}\right)^{\frac{1}{2}} =$$

$$\left(\frac{7}{4}\right)^{\frac{1}{2}} \times \left(\frac{8}{11}\right)^{\frac{1}{2}} \times (11)^{\frac{1}{2}} \times \left(\frac{2}{7}\right)^{\frac{1}{2}}$$

$$\sqrt{\frac{7}{4}} \times \sqrt{\frac{8}{11}} \times \sqrt{11} \times \sqrt{\frac{2}{7}} = \frac{\sqrt{7}}{2} \times \frac{2\sqrt{2}}{\sqrt{11}} \times \sqrt{11} \times \frac{\sqrt{2}}{\sqrt{7}} = \sqrt{2} \times \sqrt{2} = 2$$

$$B) a^{\frac{3}{4}} \times a^{\frac{5}{3}} = a^{\frac{3}{4} + \frac{5}{3}} = a^{\frac{9+20}{12}} = a^{\frac{29}{12}} = \sqrt[12]{a^{29}} =$$

$$a^{\frac{12}{12}} \sqrt[12]{a^{17}} = a^{\frac{12}{12}} \sqrt[12]{a^{12} a^5} = a^2 \sqrt[12]{a^5}$$

$$c) a^{\frac{-1}{2}} \times a^{\frac{7}{4}} \times a^{\frac{-1}{5}} = a^{\frac{-10+35-4}{20}} = a^{\frac{21}{20}} = \sqrt[20]{a^{21}} = a^{\frac{21}{20}}$$

$$d) a^{\frac{-3}{4}} \times b^{-2} \times a^{\frac{5}{6}} \times b^{\frac{1}{2}} \times c = a^{\frac{-9+10}{12}} \times b^{\frac{-4+1}{2}} \times c = a^{\frac{-9+10}{12}} \times b^{\frac{-4+1}{2}} \times c = a^{\frac{1}{12}} \times b^{\frac{-3}{2}} \times c$$

$$\frac{c}{\sqrt[3]{b}} \sqrt[12]{a} = \frac{c}{b} \times \frac{\sqrt[12]{a}}{\sqrt{b}}$$