

FRACCIONES

Problema 26:

Resolver

$$\sqrt{\left(1 - \frac{426}{697} + \frac{2\frac{1}{2}}{8\frac{1}{2}}\right) \times \frac{3\frac{1}{2}}{5\frac{1}{8}}}$$

Solución Problema 26:

Convertimos los números mixtos en fracciones ordinarias:

$$2\frac{1}{2} = \frac{4 + 1}{2} = \frac{5}{2}$$

$$8\frac{1}{2} = \frac{16 + 1}{2} = \frac{17}{2}$$

$$3\frac{1}{2} = \frac{6 + 1}{2} = \frac{7}{2}$$

$$5\frac{1}{8} = \frac{40 + 1}{8} = \frac{41}{8}$$

Sustituimos su valor en la fracción original y operamos en ella:

$$\sqrt{\left(1 - \frac{426}{697} + \frac{\frac{5}{2}}{\frac{17}{2}}\right) \times \frac{\frac{7}{2}}{\frac{41}{8}}}$$

$$\sqrt{\left(1 - \frac{426}{697} + \frac{5}{\cancel{17}}\right) \times \frac{7}{\cancel{41}}}$$

$$\sqrt{\left(\frac{697 - 426}{697} + \frac{5}{17}\right) \times \frac{7 \times 4}{41}}$$

$$\sqrt{\left(\frac{271}{41 \times 17} + \frac{5}{17}\right) \times \frac{7 \times 4}{41}}$$

$$\sqrt{\frac{271 + 5 \times 41}{41 \times 17} \times \frac{7 \times 4}{41}}$$

$$\sqrt{\frac{271 + 205}{41 \times 17} \times \frac{7 \times 4}{41}}$$

$$\sqrt{\frac{476 \times 28}{41 \times 17 \times 41}} = \sqrt{\frac{\cancel{17} \times 28 \times 28}{41 \times \cancel{17} \times 41}} = \frac{28}{41}$$