

Name: ..... Class: .....

Evaluate numerical expressions involving fractions.

Evaluate.

1.  $\left(\frac{4}{7} + \frac{2}{3} \div \frac{2}{5}\right) - \frac{1}{2} \times \frac{3}{3}$

2.  $\frac{5}{8} \div \left(\frac{9}{11} \times 2\right) \cdot \frac{2}{5}$

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1. Evaluate.  

$$\left(\frac{4}{7} + \frac{2}{3} \div \frac{2}{5}\right) - \frac{1}{2} \times \frac{3}{3}$$
 Solve the fractions in the bracket first.

$$\left(\frac{4}{7} + \left(\frac{2}{3} \div \frac{2}{5}\right)\right) - \frac{1}{2} \times \frac{3}{3}$$

$$\left(\frac{2}{3} \div \frac{2}{5}\right) = \frac{2}{3} \times \frac{5}{2} = \frac{10}{6} = \frac{5}{3}$$

$$\left(\frac{4}{7} + \frac{5}{3}\right) - \frac{1}{2} \times \frac{3}{3}$$

$$\left(\frac{4}{7} + \frac{5}{3}\right) = \frac{12 + 35}{21} = \frac{47}{21}$$

$$= \frac{24}{42} + \frac{70}{42} = \frac{24 + 70}{42} = \frac{94}{42}$$

$$\left(\frac{4}{7} + \frac{2}{3} \div \frac{2}{5}\right) - \frac{1}{2} \times \frac{3}{3} = \frac{47}{21} - \frac{1}{2} \times \frac{3}{3}$$

Now multiply.

$$\left(\frac{1}{2} \times \frac{3}{3}\right) = \frac{3}{6} = \frac{\cancel{3} \times 1}{\cancel{3} \times 2} = \frac{1}{2}$$

Lastly subtract all terms.

$$= \frac{47}{21} - \frac{1}{2} = \frac{(47 \times 2) - 21}{42}$$

$$= \frac{94 - 21}{42} = \frac{73}{42} = 1 \frac{31}{42}$$

Therefore,  $\left(\frac{4}{7} + \frac{2}{3} \div \frac{2}{5}\right) - \frac{1}{2} \times \frac{3}{3} = 1 \frac{31}{42}$

2. 
$$\frac{5}{8} \div \left(\frac{9}{11} \times 2\right) \cdot \frac{2}{5}$$

$$\left(\frac{5}{8} \div \frac{18}{11}\right) \cdot \frac{2}{5}$$

$$\left(\frac{5}{8} \times \frac{11}{18}\right) \cdot \frac{2}{5}$$

$$\left(\frac{55}{144}\right) \cdot \frac{2}{5}$$

$$\frac{55}{144} \times \frac{2}{5} = \frac{110}{720}$$

$$\frac{110}{720} = \frac{11 \times \cancel{10}}{72 \times \cancel{10}} = \frac{11}{72}$$

Therefore,  $\frac{5}{8} \div \left(\frac{9}{11} \times 2\right) \cdot \frac{2}{5} = \frac{11}{72}$