

INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ



POČETNÍ OPERACE SE ZLOMKY

(M-V-07-08)

Vypočítej.

$$1. \frac{3}{4} + \left(\frac{7}{9} - \frac{5}{12} \right) = \frac{3}{4} + \left(\frac{4 \cdot 7 - 3 \cdot 5}{36} \right) = \frac{3}{4} + \frac{28 - 15}{36} = \frac{3}{4} + \frac{13}{36} = \frac{9 \cdot 3 + 13}{36} = \frac{27 + 13}{36} = \frac{40}{36} = \frac{10}{9} = 1 \frac{1}{9}$$

$$2. \left(\frac{1}{3} + \frac{2}{5} \right) : \frac{7}{15} = \left(\frac{5 \cdot 1 + 3 \cdot 2}{15} \right) : \frac{7}{15} = \frac{11}{15} : \frac{7}{15} = \frac{11}{15} \cdot \frac{15}{7} = \frac{11}{7} = 1 \frac{4}{7}$$

$$3. \frac{8}{9} \cdot \frac{3}{4} + \left(\frac{6}{7} + \frac{1}{3} \right) = \frac{2}{3} \cdot \frac{1}{1} + \left(\frac{3 \cdot 6 + 7 \cdot 1}{21} \right) = \frac{2}{3} + \frac{18 + 7}{21} = \frac{2}{3} + \frac{25}{21} = \frac{7 \cdot 2 + 25}{21} = \frac{14 + 25}{21} = \frac{39}{21} = \frac{13}{7} = 1 \frac{6}{7}$$

$$4. \frac{3}{2} - \frac{2}{3} \cdot \left(\frac{1}{4} + \frac{2}{5} \right) = \frac{3 \cdot 3 - 2 \cdot 2}{6} \cdot \left(\frac{5 \cdot 1 + 4 \cdot 2}{20} \right) = \frac{35}{6} \cdot \frac{13}{20} = \frac{7}{6} \cdot \frac{13}{4} = \frac{91}{24} = 3 \frac{19}{24}$$

$$5. \frac{23}{25} + \left(\frac{6}{7} - \frac{3}{5} + \frac{1}{2} \right) = \frac{23}{25} + \left(\frac{10 \cdot 6 - 14 \cdot 3 + 35 \cdot 1}{70} \right) = \frac{23}{25} + \frac{60 - 42 + 35}{70} = \frac{23}{25} + \frac{53}{70} =$$

$$= \frac{70 \cdot 23 + 25 \cdot 53}{1750} = \frac{1610 + 1325}{1750} = \frac{2935}{1750} = 1 \frac{1185}{1750} = 1 \frac{237}{350}$$

$$6. \frac{3}{7} : \left(\frac{15}{17} \cdot \frac{34}{5} \right) + \frac{8}{9} = \frac{3}{7} : \left(\frac{3}{1} \cdot \frac{2}{1} \right) + \frac{8}{9} = \frac{3}{7} : \frac{6}{1} + \frac{8}{9} = \frac{3}{7} \cdot \frac{1}{6} + \frac{8}{9} = \frac{1}{7} \cdot \frac{1}{2} + \frac{8}{9} = \frac{1}{14} + \frac{8}{9} =$$

$$= \frac{9 \cdot 1 + 14 \cdot 8}{126} = \frac{9 + 112}{126} = \frac{121}{126}$$

$$7. \left(\frac{1}{4} \cdot \frac{2}{3} \right) : \frac{1}{3} + \frac{5}{6} = \left(\frac{1}{2} \cdot \frac{1}{3} \right) : \frac{1}{3} + \frac{5}{6} = \frac{1}{6} : \frac{1}{3} + \frac{5}{6} = \frac{1}{6} \cdot \frac{3}{1} + \frac{5}{6} = \frac{1 \cdot 1}{2 \cdot 1} + \frac{5}{6} = \frac{1}{2} + \frac{5}{6} = \frac{3 \cdot 1 + 5}{6} =$$

$$= \frac{8}{6} = \frac{4}{3} = 1 \frac{1}{3}$$

$$8. \frac{9}{12} - \frac{1}{2} \cdot \frac{6}{7} + \frac{5}{6} = \frac{3}{4} - \frac{1}{1} \cdot \frac{3}{7} + \frac{5}{6} = \frac{3}{4} - \frac{3}{7} + \frac{5}{6} = \frac{21 \cdot 3 - 12 \cdot 3 + 14 \cdot 5}{84} = \frac{63 - 36 + 70}{84} = \frac{97}{84} = 1 \frac{13}{84}$$