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opg

$$3 + \frac{2}{5} = \frac{3 \cdot 5}{1 \cdot 5} + \frac{2}{5}$$

$$= \frac{15}{5} + \frac{2}{5} = \frac{1}{5} \cdot (15 + 2)$$

$$= \frac{15+2}{5} = \frac{17}{5}$$

$$3 \cdot \frac{2}{5} = \frac{3}{1} \cdot \frac{2}{5} = \frac{3 \cdot 2}{5} = \frac{6}{5}$$

$$\frac{2}{-3} = -\frac{2}{3} = \frac{-2}{3}$$

$$- \frac{2}{3} = (-1) \cdot \frac{2}{3} = \frac{-2}{3}$$

utvider med -1 :

$$\frac{2}{-3} = \frac{2}{-3} \cdot \frac{-1}{-1} = \frac{-2}{3}$$

$$\frac{-2}{-3} = \frac{(-1) \cdot 2}{(-1) \cdot 3} = \frac{-1}{-1} \cdot \frac{2}{3} = \frac{2}{3}$$

$$\frac{3}{5} - \frac{7}{5} \left(= \frac{3}{5} + \frac{-7}{5} = \right) \frac{3-7}{5} = \frac{-4}{5}$$

Forkort

$$\frac{3 \cdot \overset{1}{\cancel{17}} \cdot \overset{2}{\cancel{2}} \cdot \overset{1}{\cancel{13}}}{\overset{5}{\cancel{55}} \cdot \overset{7}{\cancel{34}} \cdot \overset{1}{\cancel{91}}} = \frac{3 \cdot 1 \cdot 2 \cdot 1}{5 \cdot 2 \cdot 7} = \frac{3}{35}$$

$$\frac{3 \cdot \overset{1}{\cancel{17}} \cdot \overset{2}{\cancel{2}} \cdot \overset{1}{\cancel{11}} \cdot \overset{1}{\cancel{13}}}{5 \cdot \overset{1}{\cancel{11}} \cdot \overset{2}{\cancel{2}} \cdot \overset{1}{\cancel{17}} \cdot \overset{1}{\cancel{13}} \cdot 7} = \frac{3}{5 \cdot 7} = \frac{3}{35}$$

$$\frac{3x+6}{3 \cdot 5x^2} = \frac{3(x+2)}{3 \cdot 5 \cdot x^2}$$

$$= \frac{3}{3} \cdot \frac{x+2}{5x^2} = \frac{x+2}{5x^2}$$

Forkort

$$\begin{aligned}\frac{399}{210} &= \frac{399}{21 \cdot 10} = \frac{3 \cdot 133}{3 \cdot 7 \cdot 10} \\ &= \frac{133}{7 \cdot 10} = \frac{(140-7)}{7 \cdot 10} = \frac{7 \cdot 19}{7 \cdot 10} \\ &= \frac{19}{10} \quad (= 1.9)\end{aligned}$$

Brøden brøk

$$\begin{aligned}\left(a/b = a \cdot \left(\frac{1}{b} \right) \right) \\ \left(\frac{1}{a/b} = \frac{b}{a} \right)\end{aligned}$$

$$\frac{\frac{2}{3}}{\frac{5}{6}}$$

$$\begin{aligned}&= \left(\frac{2}{3} \right) / \left(\frac{5}{6} \right) = \frac{2}{3} : \frac{5}{6} \\ &= \frac{2}{3} \cdot \frac{1}{5/6} = \frac{2}{3} \cdot \frac{6}{5} \\ &= \frac{2 \cdot 2 \cdot 3}{3 \cdot 5} = \frac{4}{5}\end{aligned}$$

Alternativ: Utvide den brødre brøken

$$\left(\frac{2}{3} \right) / \left(\frac{5}{6} \right) \text{ utvider med } 6 : \frac{\frac{2}{3} \cdot 6}{\frac{5}{6} \cdot 6} = \frac{4}{5}$$