Facit til kursusgang 1: Brøker

1. Svarene er:

$$\frac{8}{4}, \qquad \frac{10}{4}, \qquad \frac{4\pi}{4}, \qquad \frac{6}{4}.$$

2. Svarene er:

$$\frac{21}{3}, \qquad \frac{2}{3}, \qquad \frac{4}{3}, \qquad \frac{12\pi}{3}.$$

3. Svarene er:

$$2, \qquad \frac{5}{4}, \qquad \frac{13}{12}, \qquad 1, \qquad -\frac{1}{3}.$$

4. Svarene er:

$$\frac{3}{2}, \qquad \frac{1}{12}, \qquad \frac{7}{24}, \qquad \frac{3}{10}, \qquad \frac{14}{9}, \qquad \frac{9}{25}.$$

5. Svarene er:

$$4, \qquad \frac{3}{2}, \qquad \frac{1}{4}, \qquad 1, \qquad \frac{5}{4}.$$

6. Svarene er:

$$\frac{73}{50}, \qquad -11, \qquad \frac{5}{8}, \qquad 0, \qquad \frac{19}{2}.$$

7. Svarene er:

$$\frac{9}{11}, \qquad 14, \qquad \frac{1}{11}.$$

   Svaret i c) kan fås ved følgende udregninger:

$$\frac{2}{3}\cdot\frac{\frac{5}{2}-2}{\frac{8}{3}+1} \Leftrightarrow \frac{2}{3}\cdot\frac{\frac{5}{2}-\frac{4}{2}}{\frac{8}{3}+\frac{3}{3}} \Leftrightarrow \frac{2}{3}\cdot\frac{\frac{1}{2}}{\frac{11}{3}} \Leftrightarrow \frac{2}{3}\cdot\frac{1}{2}\cdot\frac{3}{11} \Leftrightarrow \frac{6}{66} \Leftrightarrow \frac{1}{11}$$

8. Svarene er:

$$\frac{1}{2}=\frac{3}{6}, \qquad \frac{6}{7}=\frac{42}{49}, \qquad \frac{2x}{y}=\frac{2xy}{y^2}, \qquad \frac{\pi}{\sqrt{2}}=\frac{3\pi^3}{3\pi^2\sqrt{2}}.$$

9. Svaret er:

$$1.$$

10. Svarene er:

$$x+1, \qquad x+2y, \qquad 2x+7, \qquad y, \qquad \frac{x+3}{2x}, \qquad \frac{x-1}{3x}.$$

11. Svaret er:

    6.

12. Vi regner på venstresiden og får

$$\frac{\frac{1}{b}+1}{1-\frac{a}{b}} = \frac{b}{b}\frac{\left(\frac{1}{b}+1\right)}{\left(1-\frac{a}{b}\right)} = \frac{1+b}{b-a},$$

    hvor $b \notin \{0, a\}$.

13. Vi regner på venstresiden og får

$$\frac{\frac{a}{b}+1}{\frac{b}{a}+1} = \frac{\frac{a}{b}+\frac{b}{b}}{\frac{b}{a}+\frac{a}{a}} = \frac{a+b}{b} \cdot \frac{a}{a+b} = \frac{a}{b}.$$

    hvor $a, b \neq 0$