

**Aufgabe 4**

a)

$$\frac{10}{50} = \frac{10 : 2}{50 : 2} = \frac{5}{25}$$

$$\frac{10}{50} = \frac{10 : 5}{50 : 5} = \frac{2}{10}$$

$$\frac{10}{50} = \frac{10 : 10}{50 : 10} = \frac{1}{5}$$

b)

$$\frac{6}{11} = \frac{6 \cdot 2}{11 \cdot 2} = \frac{12}{22}$$

$$\frac{6}{11} = \frac{6 \cdot 3}{11 \cdot 3} = \frac{18}{33}$$

$$\frac{6}{11} = \frac{6 \cdot 4}{11 \cdot 4} = \frac{24}{44}$$

c)

$$\frac{5}{15} = \frac{5 \cdot 2}{15 \cdot 2} = \frac{10}{30}$$

$$\frac{5}{15} = \frac{5 \cdot 10}{15 \cdot 10} = \frac{50}{150}$$

$$\frac{5}{15} = \frac{5 : 5}{15 : 5} = \frac{1}{3}$$

**d)**

$$\frac{25}{5} = \frac{25 \cdot 2}{5 \cdot 2} = \frac{50}{10}$$

$$\frac{25}{5} = \frac{25 \cdot 5}{5 \cdot 5} = \frac{125}{25}$$

$$\frac{25}{5} = \frac{25 : 5}{5 : 5} = \frac{5}{1} = 5$$

**e)**

$$\frac{7}{9} = \frac{7 \cdot 2}{9 \cdot 2} = \frac{14}{18}$$

$$\frac{7}{9} = \frac{7 \cdot 3}{9 \cdot 3} = \frac{21}{27}$$

$$\frac{7}{9} = \frac{7 \cdot 7}{9 \cdot 7} = \frac{49}{63}$$

**f)**

$$\frac{6}{4} = \frac{6 \cdot 2}{4 \cdot 2} = \frac{12}{8}$$

$$\frac{6}{4} = \frac{6 \cdot 3}{4 \cdot 3} = \frac{18}{12}$$

$$\frac{6}{4} = \frac{6 : 2}{4 : 2} = \frac{3}{2} = 1\frac{1}{2}$$

g)

$$\frac{14}{30} = \frac{14 \cdot 2}{30 \cdot 2} = \frac{28}{60}$$

$$\frac{14}{30} = \frac{14 \cdot 10}{30 \cdot 10} = \frac{140}{300}$$

$$\frac{14}{30} = \frac{14 : 2}{30 : 2} = \frac{7}{15}$$

### Aufgabe 5

a)

$$\frac{3}{4} = \frac{3 \cdot 5}{4 \cdot 5} = \frac{15}{20}$$

$$\frac{18}{30} = \frac{18 : 6}{30 : 6} = \frac{3}{5}$$

$$\frac{2}{7} = \frac{2 \cdot 4}{7 \cdot 4} = \frac{8}{28}$$

$$\frac{24}{60} = \frac{24 : 12}{60 : 12} = \frac{2}{5}$$

b)

$$\frac{3}{5} = \frac{3 \cdot 12}{5 \cdot 12} = \frac{36}{60}$$

$$\frac{4}{7} = \frac{4 \cdot 12}{7 \cdot 12} = \frac{48}{84}$$

$$\frac{1}{9} = \frac{1 \cdot 12}{9 \cdot 12} = \frac{12}{108}$$

$$\frac{3}{8} = \frac{3 \cdot 9}{8 \cdot 9} = \frac{27}{72}$$

### Aufgabe 6

a) Der Bruch  $\frac{3}{4}$  wurde mit 2, 3 und 6 erweitert.

$$\frac{3}{4} = \frac{3 \cdot 2}{4 \cdot 2} = \frac{6}{8}$$

$$\frac{3}{4} = \frac{3 \cdot 3}{4 \cdot 3} = \frac{9}{12}$$

$$\frac{3}{4} = \frac{3 \cdot 6}{4 \cdot 6} = \frac{18}{24}$$

b)

