

Aufgabe 15

1)

$$\left(\frac{1}{2} : \frac{2}{3}\right) : \frac{3}{4} = \left(\frac{1}{2} \cdot \frac{3}{2}\right) : \frac{3}{4} = \frac{3}{4} : \frac{3}{4} = \frac{3}{4} \cdot \frac{4}{3} = \frac{1}{1} \cdot \frac{1}{1} = 1$$

2)

$$\frac{1}{2} : \left(\frac{2}{3} : \frac{3}{4}\right) = \frac{1}{2} : \left(\frac{2}{3} \cdot \frac{4}{3}\right) = \frac{1}{2} : \frac{8}{9} = \frac{1}{2} \cdot \frac{9}{8} = \frac{9}{16}$$

3)

$$\left(\frac{1}{2} : \frac{2}{3}\right) \cdot \frac{3}{4} = \left(\frac{1}{2} \cdot \frac{3}{2}\right) \cdot \frac{3}{4} = \frac{3}{4} \cdot \frac{3}{4} = \frac{9}{16}$$

4)

$$\frac{1}{2} : \left(\frac{2}{3} \cdot \frac{3}{4}\right) = \frac{1}{2} : \left(\frac{1}{1} \cdot \frac{1}{2}\right) = \frac{1}{2} : \frac{1}{2} = \frac{1}{2} \cdot \frac{2}{1} = \frac{1}{1} \cdot \frac{1}{1} = 1$$

5)

$$\left(\frac{1}{2} \cdot \frac{2}{3}\right) : \frac{3}{4} = \left(\frac{1}{1} \cdot \frac{1}{3}\right) : \frac{3}{4} = \frac{1}{3} : \frac{3}{4} = \frac{1}{3} \cdot \frac{4}{3} = \frac{4}{9}$$

6)

$$\frac{1}{2} \cdot \left(\frac{2}{3} : \frac{3}{4}\right) = \frac{1}{2} \cdot \left(\frac{2}{3} \cdot \frac{4}{3}\right) = \frac{1}{2} \cdot \frac{8}{9} = \frac{1}{1} \cdot \frac{4}{9} = \frac{4}{9}$$

Aufgabe 16

a)

$$\frac{1}{4} : \frac{3}{1} = \frac{1}{4} \cdot \frac{1}{3} = \frac{1}{12}$$

b)

$$\frac{6}{7} : \frac{5}{1} = \frac{6}{7} \cdot \frac{1}{5} = \frac{6}{35}$$

c)

$$\frac{2}{3} : 4 = \frac{2}{3 \cdot 4} = \frac{2}{12} = \frac{1}{6}$$

d)

$$\frac{7}{5} : 2 = \frac{7}{5 \cdot 2} = \frac{7}{10}$$

e)

$$\frac{12}{5} : \frac{3}{2} = \frac{12}{5} \cdot \frac{2}{3} = \frac{4}{5} \cdot \frac{2}{1} = \frac{8}{5}$$

f)

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

g)

$$\frac{18}{4} : \frac{3}{4} = \frac{18}{4} \cdot \frac{4}{3} = \frac{6}{1} \cdot \frac{1}{1} = \frac{6}{1} = 6$$

h)

$$\frac{12}{5} : \frac{12}{5} = \frac{12}{5} \cdot \frac{5}{12} = \frac{1}{1} \cdot \frac{1}{1} = 1$$

i)

$$\frac{3}{4} : \frac{2}{5} = \frac{3}{4} \cdot \frac{5}{2} = \frac{15}{8}$$

j)

$$\frac{8}{7} : \frac{32}{21} = \frac{8}{7} \cdot \frac{21}{32} = \frac{1}{1} \cdot \frac{3}{4} = \frac{3}{4}$$