

Ma 5b Lösungen (04.05.-08.05.2020)

32 Anteile und Größen

Vervielfachen und Teilen gemeiner Brüche

1. Berechne

Berechne das Fünffache von $\frac{2}{3}$. $5 \cdot \frac{2}{3} = \frac{5 \cdot 2}{3} = \frac{10}{3}$

a) das Dreifache von $\frac{5}{8}$. $3 \cdot \frac{5}{8} = \frac{3 \cdot 5}{8} = \frac{15}{8} = 1\frac{7}{8}$

b) das Siebenfache von $\frac{4}{3}$. $7 \cdot \frac{4}{3} = \frac{7 \cdot 4}{3} = \frac{28}{3} = 9\frac{1}{3}$

c) das Zehnfache von $\frac{2}{7}$. $10 \cdot \frac{2}{7} = \frac{10 \cdot 2}{7} = \frac{20}{7} = 2\frac{6}{7}$

d) das Zwölfache von $\frac{7}{10}$. $12 \cdot \frac{7}{10} = \frac{12 \cdot 7}{10} = \frac{84}{10} = 8\frac{4}{10}$

e) das Doppelte von $\frac{5}{9}$. $2 \cdot \frac{5}{9} = \frac{2 \cdot 5}{9} = \frac{10}{9} = 1\frac{1}{9}$

f) das Achtfache von $\frac{1}{4}$. $8 \cdot \frac{1}{4} = \frac{8 \cdot 1}{4} = \frac{8}{4} = 2$

2. Berechne

3. Fülle die Lücken aus.

a) $\frac{3}{5} \cdot \boxed{4} = \frac{12}{5}$

b) $\frac{2}{9} \cdot \boxed{7} = \frac{14}{9}$

c) $\frac{7}{11} \cdot \boxed{5} = \frac{35}{11}$

d) $\frac{5}{7} \cdot \boxed{9} = \frac{45}{7}$

4. a)

•	2	3	5	7
$\frac{3}{4}$	$\frac{6}{4} = 1\frac{2}{4}$	$\frac{9}{4} = 2\frac{1}{4}$	$\frac{15}{4} = 3\frac{3}{4}$	$\frac{21}{4} = 5\frac{1}{4}$
$\frac{4}{5}$	$\frac{8}{5} = 1\frac{3}{5}$	$\frac{12}{5} = 2\frac{2}{5}$	$\frac{20}{5} = 4$	$\frac{28}{5} = 5\frac{3}{5}$
$\frac{2}{7}$	$\frac{4}{7}$	$\frac{6}{7}$	$\frac{10}{7} = 1\frac{3}{7}$	$\frac{14}{7} = 2$
$\frac{7}{9}$	$\frac{14}{9} = 1\frac{5}{9}$	$\frac{21}{9} = 2\frac{3}{9}$	$\frac{35}{9} = 3\frac{8}{9}$	$\frac{49}{9} = 5\frac{4}{9}$

Lösung vom 04.05. - 08.05.2020

Lb 5 126/10 a) - f)

a) $\frac{2}{3} \cdot 2 = \frac{2 \cdot 2}{3} = \frac{4}{3}$

b) $\frac{8}{5} \cdot 4 = \frac{8 \cdot 4}{5} = \frac{32}{5}$

c) $\frac{21}{6} \cdot 2 = \frac{21 \cdot 2}{6} = \frac{42}{6} = 7$

d) $\frac{24}{8} \cdot 8 = \frac{24 \cdot 8}{8} = \frac{192}{8} = 24$

e) $\frac{8}{6} \cdot 4 = \frac{8 \cdot 4}{6} = \frac{32}{6} = 5\frac{2}{3}$

f) $\frac{25}{7} \cdot 5 = \frac{25 \cdot 5}{7} = \frac{125}{7} = 17\frac{6}{7}$

Lb 5 126/14 b) (1) - (3) (5) (4)

(1) $\frac{8}{9} \cdot 2 = \frac{8 \cdot 2}{9} = \frac{16}{9}$

(2) $\frac{9}{10} \cdot 3 = \frac{9 \cdot 3}{10} = \frac{27}{10}$

(3) $\frac{25}{9} \cdot 5 = \frac{25 \cdot 5}{9} = \frac{125}{9} = 13\frac{8}{9}$

(4) $8\frac{4}{5} \cdot 4 = 8 \cdot 4 + \frac{4 \cdot 4}{5} = 32 + \frac{16}{5} = 32\frac{16}{5} = 36\frac{3}{5}$

Lb 5 126/10 g) - j)

g) $\frac{1}{3} \cdot 2 = \frac{1 \cdot 2}{3} = \frac{2}{3}$

h) $\frac{1}{4} \cdot 5 = \frac{1 \cdot 5}{4} = \frac{5}{4}$

i) $\frac{4}{8} \cdot 3 = \frac{4 \cdot 3}{8} = \frac{12}{8} = 1\frac{3}{2}$

j) $\frac{3}{4} \cdot 7 = \frac{3 \cdot 7}{4} = \frac{21}{4} = 5\frac{1}{4}$

Lb 5.127/17 h)-n)

h) $\frac{1}{2} : 3 = \frac{1}{2 \cdot 3} = \frac{1}{6}$ i) $\frac{1}{4} : 5 = \frac{1}{4 \cdot 5} = \frac{1}{20}$
 $\frac{1}{3} : 2 = \frac{1}{3 \cdot 2} = \frac{1}{6}$ $\frac{1}{6} : 3 = \frac{1}{6 \cdot 3} = \frac{1}{18}$

j) $\frac{2}{3} : 3 = \frac{2}{3 \cdot 3} = \frac{2}{9}$ k) $\frac{3}{5} : 2 = \frac{3}{5 \cdot 2} = \frac{3}{10}$
 $\frac{3}{4} : 2 = \frac{3}{4 \cdot 2} = \frac{3}{8}$ $\frac{4}{5} : 3 = \frac{4}{5 \cdot 3} = \frac{4}{15}$

l) $\frac{5}{8} : 3 = \frac{5}{8 \cdot 3} = \frac{5}{24}$ m) $\frac{3}{7} : 9 = \frac{3}{7 \cdot 9} = \frac{3}{63}$
 $\frac{7}{9} : 4 = \frac{7}{9 \cdot 4} = \frac{7}{36}$ $\frac{7}{8} : 9 = \frac{7}{8 \cdot 9} = \frac{7}{72}$

n) $\frac{7}{4} : 8 = \frac{7}{4 \cdot 8} = \frac{7}{32}$
 $\frac{7}{8} : 8 = \frac{7}{8 \cdot 8} = \frac{7}{64}$

Lb 5.127/20 a)-d)

a) $\frac{1}{6} : 4 = \frac{1}{6 \cdot 4} = \frac{1}{24}$ b) $\frac{15}{7} : 8 = \frac{15}{7 \cdot 8} = \frac{15}{56}$
 $\frac{7}{8} : 3 = \frac{7}{8 \cdot 3} = \frac{7}{24}$ $\frac{3}{4} : 3 = \frac{3}{4 \cdot 3} = \frac{3}{12}$ *Beide Ergebnisse sind gleich!*

$\frac{5}{9} : 7 = \frac{5}{9 \cdot 7} = \frac{5}{63}$ oder $\frac{3}{4} : 3 = \frac{3 \cdot 3}{4} = \frac{9}{4}$ *Lernen wir beim Kürzen*

$\frac{3}{8} : 5 = \frac{3}{8 \cdot 5} = \frac{3}{40}$

c) $\frac{6}{7} : 7 = \frac{6}{7 \cdot 7} = \frac{6}{49}$
 $\frac{4}{5} : 7 = \frac{4}{5 \cdot 7} = \frac{4}{35}$
 $\frac{10}{11} : 5 = \frac{10}{11 \cdot 5} = \frac{10}{55}$ oder
 $\frac{10}{11} : 5 = \frac{10 : 5}{11} = \frac{2}{11}$

d) $\frac{7}{8} : 5 = \frac{7}{8 \cdot 5} = \frac{7}{40}$
 $\frac{6}{7} : 9 = \frac{6}{7 \cdot 9} = \frac{6}{63}$
 $\frac{14}{15} : 7 = \frac{14}{15 \cdot 7} = \frac{14}{105}$ oder
 $\frac{14}{15} : 7 = \frac{14 : 7}{15} = \frac{2}{15}$

Zusatz: e) $\frac{3}{85}$ f) $\frac{5}{301}$
 $\frac{8}{105}$ $\frac{7}{205}$
 $\frac{7}{184}$ $\frac{9}{296}$

Nr. 21) a) $9\frac{3}{4}$ b) $8\frac{4}{5}$ c) $15\frac{9}{10}$ d) $16\frac{12}{5} = 18\frac{2}{5}$

e) $56\frac{63}{11} = 61\frac{8}{11}$ f) $1\frac{4}{15}$ g) $2\frac{1}{8}$ h) $2\frac{3}{24}$

i) $3\frac{1}{6}$ j) $2\frac{1}{8}$ k) $\frac{18}{5} : 9 = \frac{18}{45}$ l) $\frac{140}{9} : 8 = \frac{140}{72} = 1\frac{68}{72}$

Nr. 23) a) 4 b) 3 c) 3 d) 4 e) 2
f) 7 g) 13 h) $\frac{1}{5}$