

## Rechnen mit Brüchen - Übungen

1. Schreibe die folgenden Brüche als gemischte Zahlen:

$$\frac{5}{3} =$$

$$\frac{25}{4} =$$

$$\frac{53}{8} =$$

$$\frac{110}{9} =$$

$$\frac{67}{12} =$$

2. Schreibe als unechte Brüche:

$$2\frac{1}{5} =$$

$$7\frac{1}{2} =$$

$$9\frac{2}{3} =$$

$$4\frac{2}{15} =$$

$$22\frac{5}{6} =$$

3. Kürze die folgenden Brüche so weit wie möglich:

$$\frac{45}{75} =$$

$$\frac{88}{132} =$$

$$\frac{96}{168} =$$

$$\frac{130}{52} =$$

$$\frac{3420}{1440} =$$

4. Erweitere die folgenden Brüche auf den gegebenen Nenner:

$$\frac{3}{4} = \frac{\quad}{48}$$

$$\frac{7}{5} = \frac{\quad}{40}$$

$$\frac{5}{12} = \frac{\quad}{240}$$

$$\frac{3}{8} = \frac{\quad}{1000}$$

$$\frac{16}{35} = \frac{\quad}{770}$$

Kürze bei den folgenden Aufgaben die Ergebnisse soweit wie möglich und gib sie, wenn möglich, als gemischte Zahl an!

5.

a)  $\frac{1}{2} + \frac{1}{3} =$

e)  $\frac{3}{4} - \frac{1}{3} =$

b)  $\frac{2}{3} + \frac{1}{6} =$

f)  $\frac{2}{5} - \frac{4}{15} =$

c)  $\frac{3}{4} + \frac{2}{5} =$

g)  $\frac{7}{8} - \frac{2}{3} =$

d)  $\frac{5}{6} + \frac{3}{8} =$

h)  $\frac{7}{10} - \frac{3}{8} =$

6.

a)  $1\frac{2}{5} + 2\frac{2}{3} =$

e)  $\frac{3}{4} + \frac{1}{2} - \frac{5}{6} =$

b)  $3\frac{2}{3} + 4\frac{5}{6} =$

f)  $2\frac{3}{7} + 1\frac{1}{2} - \frac{5}{14} =$

c)  $8\frac{5}{9} - 3\frac{1}{6} =$

g)  $5\frac{1}{2} - 3\frac{2}{9} + 1\frac{1}{6} =$

d)  $5\frac{1}{12} - 3\frac{3}{4} =$

h)  $1\frac{4}{25} - \frac{1}{2} + 2\frac{3}{10} =$

7.

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

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

b)  $1\frac{2}{3} \cdot 9 =$

f)  $\frac{4}{9} \cdot 1\frac{7}{8} =$

c)  $\frac{4}{5} \cdot \frac{3}{8} =$

g)  $2\frac{2}{5} \cdot 3\frac{1}{3} =$

d)  $\frac{5}{6} \cdot \frac{9}{10} =$

h)  $2\frac{1}{12} \cdot 2\frac{7}{10} =$

8.

a)  $\frac{1}{4} : 3 =$

e)  $2\frac{1}{3} : \frac{1}{6} =$

b)  $\frac{4}{5} : 8 =$

f)  $3\frac{3}{4} : \frac{5}{8} =$

c)  $\frac{2}{5} : \frac{3}{10} =$

g)  $\frac{3}{8} : 2\frac{7}{10} =$

d)  $\frac{7}{12} : \frac{5}{9} =$

h)  $4\frac{1}{5} : 4\frac{2}{3} =$

9.

a)  $2\frac{3}{4} - 1\frac{2}{5} \cdot 1\frac{2}{3} + 2\frac{1}{6} =$

d)  $(3\frac{1}{3} - 1\frac{1}{5}) \cdot (1\frac{3}{8} + \frac{1}{2}) =$

b)  $(2\frac{3}{4} - 1\frac{2}{5}) \cdot 1\frac{2}{3} + 2\frac{1}{6} =$

e)  $(2\frac{1}{3} + 3\frac{1}{2}) \cdot (1\frac{1}{7} - \frac{1}{2}) =$

c)  $3\frac{1}{3} - 1\frac{1}{5} \cdot (1\frac{3}{8} + \frac{1}{2}) =$

f)  $(2\frac{1}{3} + 3\frac{1}{2}) \cdot 1\frac{1}{7} - \frac{1}{2} =$

10.

a)  $(2\frac{2}{3} \cdot 1\frac{3}{5} - \frac{4}{5} \cdot 1\frac{1}{3}) : 3\frac{1}{5} =$

d)  $(4\frac{1}{5} - 1\frac{2}{7}) \cdot \frac{5}{6} + (3\frac{1}{2} + 1\frac{2}{9}) : \frac{5}{18} =$

b)  $(4\frac{2}{3} - 1\frac{3}{4}) \cdot 1\frac{3}{7} - 2\frac{1}{2} : \frac{3}{5} =$

e)  $10\frac{2}{3} - (4\frac{2}{5} - 1\frac{7}{10}) : (2\frac{2}{5} - 1\frac{1}{2}) =$

c)  $4\frac{3}{8} - 1\frac{5}{22} : 3\frac{3}{11} + 2\frac{1}{7} \cdot \frac{7}{12} =$

f)  $7\frac{1}{2} - (3\frac{1}{5} : 2\frac{2}{15} + 1\frac{3}{4} \cdot 1\frac{3}{7}) =$

11.

a)  $3\frac{1}{3} : (2\frac{1}{2})^2 + 6\frac{3}{10} : (5\frac{1}{2} - \frac{1}{10}) =$

c)  $(\frac{1}{6} - (\frac{1}{2})^3) \cdot (2\frac{1}{2} + 1\frac{2}{3} : \frac{2}{5}) =$

b)  $(2\frac{1}{4} \cdot (\frac{2}{3})^3 - \frac{3}{10} : 1\frac{4}{5}) \cdot 4\frac{4}{5} =$

d)  $(2\frac{1}{12} - 1\frac{1}{3})^2 - (1\frac{1}{5} - 10\frac{1}{2} : 12) + \frac{1}{80} =$

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Ergebnisse:

- |               |           |           |            |          |          |
|---------------|-----------|-----------|------------|----------|----------|
| 1. 1 2/3      | 6 1/4     | 6 5/8     | 12 2/9     | 5 7/12   |          |
| 2. 11/5       | 15/2      | 29/3      | 62/15      | 137/6    |          |
| 3. 3/5        | 2/3       | 4/7       | 5/2        | 19/8     |          |
| 4. 36/48      | 56/40     | 100/240   | 375/1000   | 352/770  |          |
| 5. a) 5/6     | b) 5/6    | c) 1 3/20 | d) 1 5/24  |          |          |
| e) 5/12       | f) 2/15   | g) 5/24   | h) 13/40   |          |          |
| 6. a) 4 1/15  | b) 8 1/2  | c) 5 7/18 | d) 1 1/3   |          |          |
| e) 5/12       | f) 3 4/7  | g) 3 4/9  | h) 2 24/25 |          |          |
| 7. a) 3 3/4   | b) 15     | c) 3/10   | d) 3/4     |          |          |
| e) 4 1/6      | f) 5/6    | g) 8      | h) 5 5/8   |          |          |
| 8. a) 1/12    | b) 1/10   | c) 1 1/3  | d) 1 1/20  |          |          |
| e) 14         | f) 6      | g) 5/36   | h) 9/10    |          |          |
| 9. a) 2 7/12  | b) 4 5/12 | c) 1 1/12 | d) 4       | e) 3 3/4 | f) 6 1/6 |
| 10. a) 1      | b) 0      | c) 5 1/4  | d) 19 3/7  | e) 7 2/3 | f) 3 1/2 |
| 11. a) 1 7/10 | b) 2 2/5  | c) 5/18   | d) 1/4     |          |          |