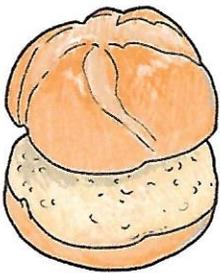
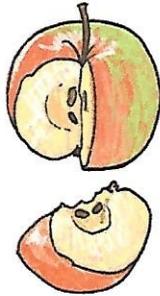


# A Bruchteile

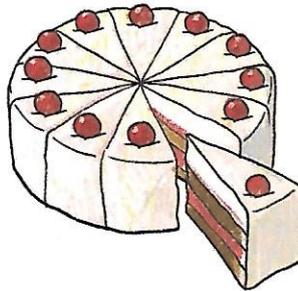
1 Gib die Bruchteile an.



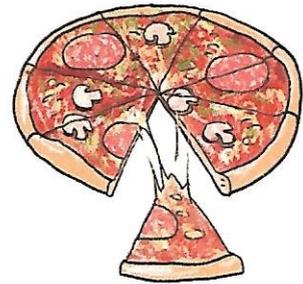
a) \_\_\_\_\_ Brötchen



b) \_\_\_\_\_ Apfel



c) \_\_\_\_\_ Kuchen

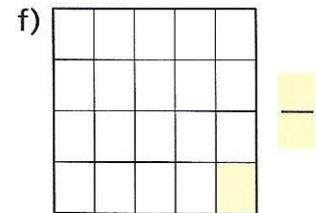
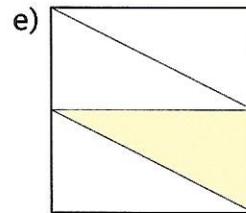
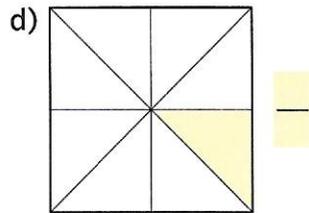
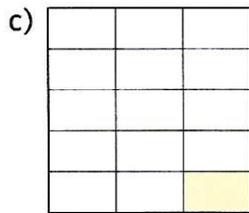
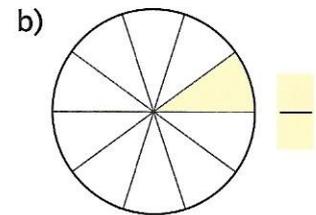
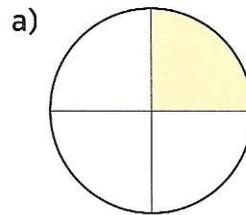
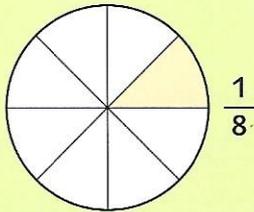


d) \_\_\_\_\_ Pizza

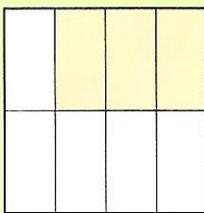
2 Welcher Bruchteil ist gefärbt?

Der Kreis ist in 8 gleichgroße Teile geteilt.

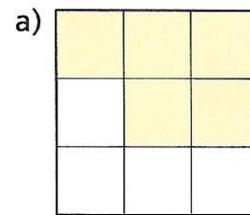
1 Teil ist gefärbt.



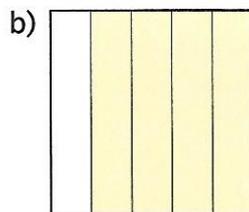
3 Gib den gefärbten Anteil des Rechtecks als Bruch an.



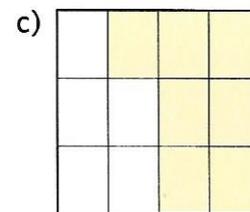
$\frac{3}{8}$  Anzahl der gefärbten Teile  
Anzahl aller Teile



$\frac{5}{9}$  Anzahl der gefärbten Teile  
Anzahl aller Teile

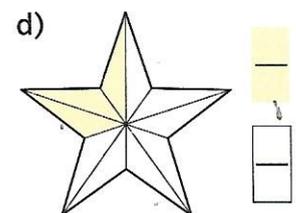
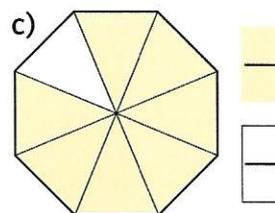
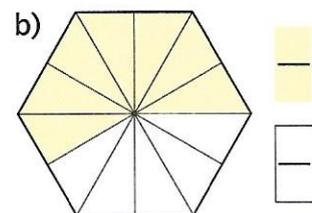
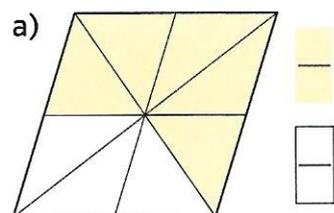


$\frac{3}{4}$  Anzahl der gefärbten Teile  
Anzahl aller Teile

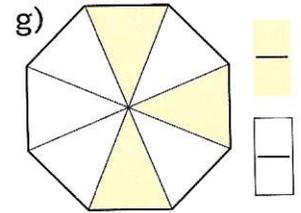
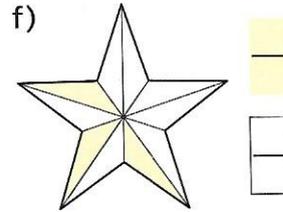
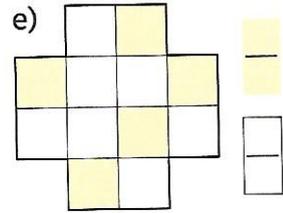
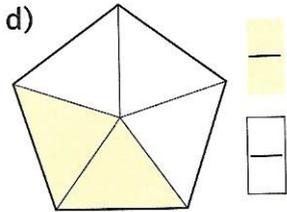
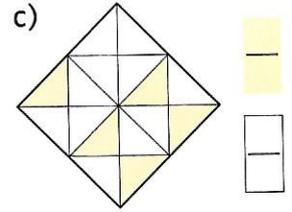
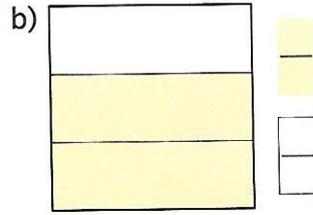
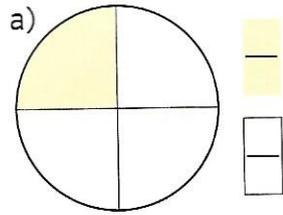
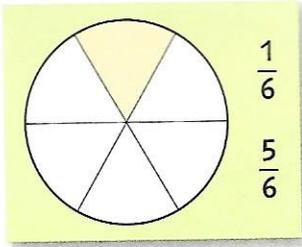


$\frac{6}{9}$  Anzahl der gefärbten Teile  
Anzahl aller Teile

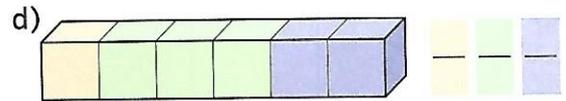
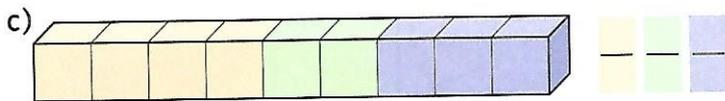
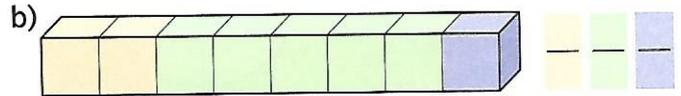
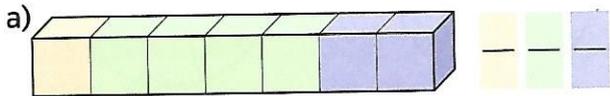
4 Welcher Bruchteil der Figur ist gefärbt, welcher ist nicht gefärbt?



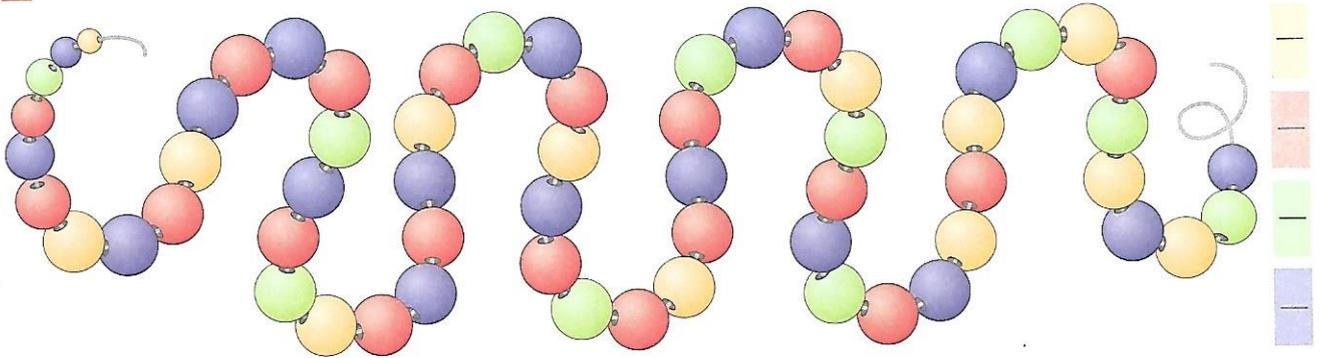
5 Welcher Bruchteil der Figur ist gefärbt, welcher nicht?



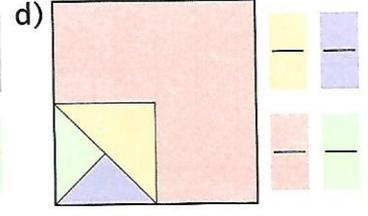
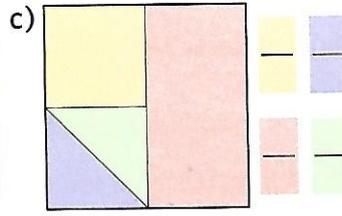
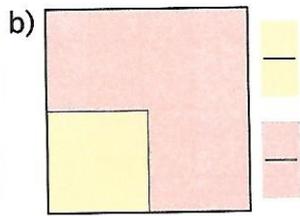
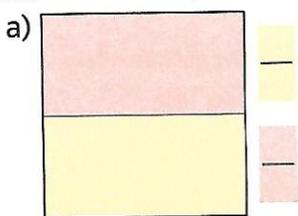
6 Welcher Bruchteil der Figur ist gelb, welcher grün, welcher blau?



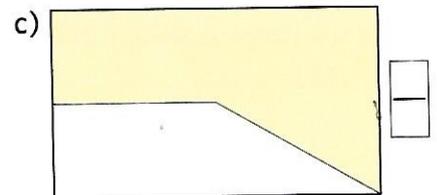
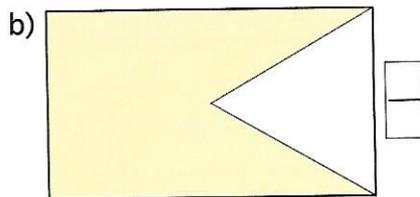
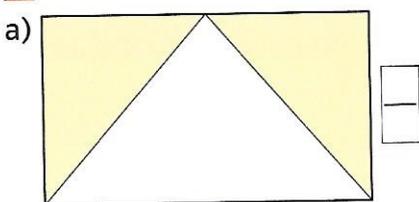
7 Welcher Bruchteil der Kette ist rot (gelb, grün, blau)?



8 Beschreibe jede der Teilflächen durch einen Bruch.

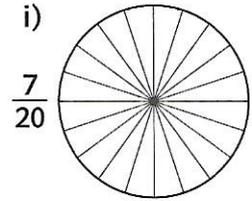
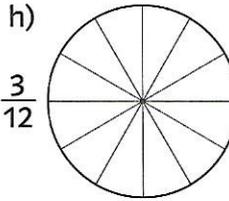
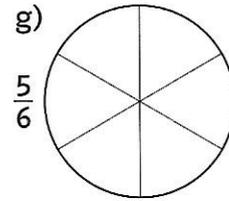
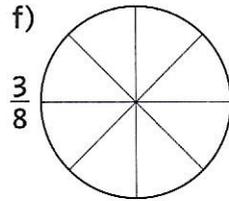
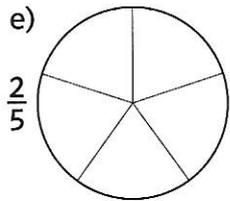
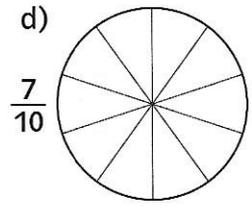
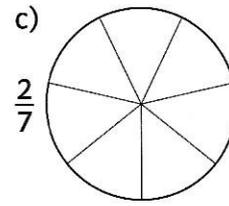
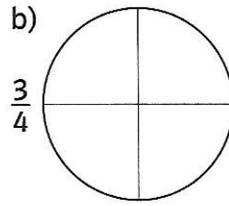
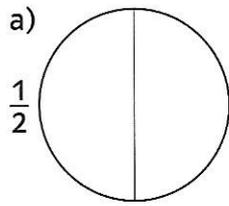
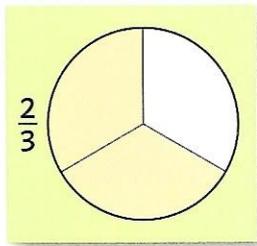


9 Welcher Bruchteil fehlt am Ganzen?

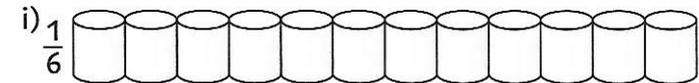
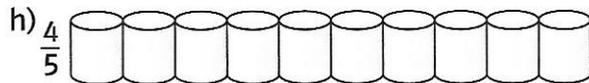
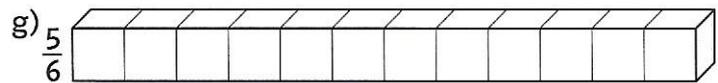
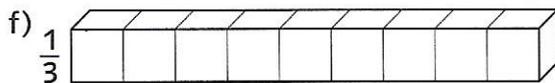
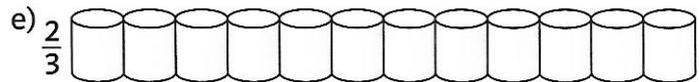
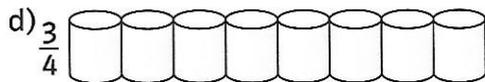
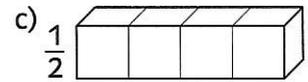
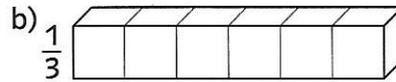
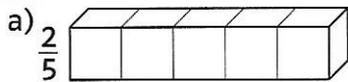


## B Brüche darstellen

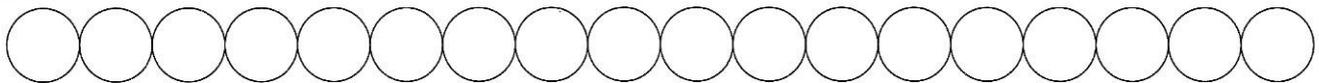
1 Färbe den angegebenen Bruchteil des Kreises.



2 Färbe in jeder Figur den angegebenen Bruchteil.

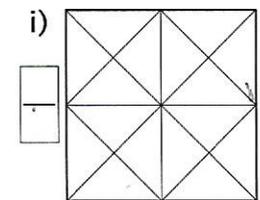
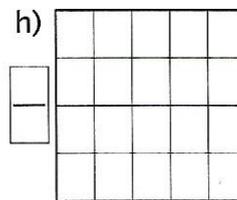
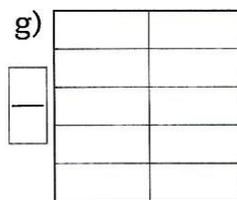
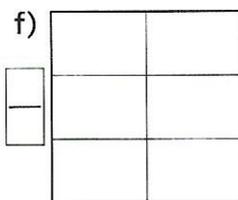
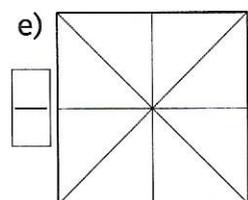
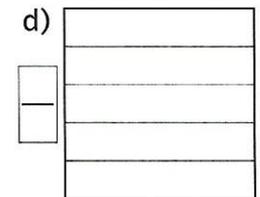
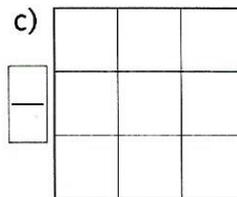
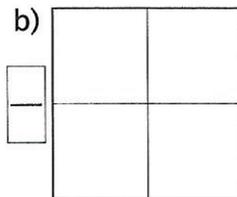
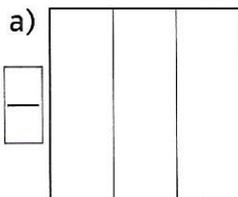


3 Färbe ein Drittel der Kreise rot, ein Sechstel blau und vier Neuntel gelb.



4 Stelle jeden Bruch in einem passenden Quadrat dar. Notiere neben dem Quadrat den dargestellten Bruch.

- |                |                |                |
|----------------|----------------|----------------|
| $\frac{1}{4}$  | $\frac{3}{8}$  | $\frac{2}{3}$  |
| $\frac{4}{5}$  | $\frac{7}{10}$ | $\frac{7}{20}$ |
| $\frac{5}{16}$ | $\frac{4}{9}$  | $\frac{5}{6}$  |



## B Brüche darstellen

5 Zeichne in das Quadrat eine passende Einteilung ein. Stelle dann den angegebenen Bruch dar.

a)  $\frac{3}{4}$       b)  $\frac{5}{8}$       c)  $\frac{3}{5}$       d)  $\frac{3}{10}$       e)  $\frac{11}{16}$

6 Stelle alle angegebenen Brüche in demselben Quadrat dar. Wähle für jeden Bruch eine andere Farbe.

a)  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{100}$

b)  $\frac{3}{5}$ ,  $\frac{1}{10}$ ,  $\frac{1}{20}$

c)  $\frac{3}{4}$ ,  $\frac{3}{20}$ ,  $\frac{3}{100}$

d)  $\frac{7}{20}$ ,  $\frac{4}{25}$ ,  $\frac{11}{50}$

7 Stelle die angegebenen Brüche mithilfe der Uhrenscheibe dar.

a)  $\frac{1}{6}$       b)  $\frac{5}{12}$       c)  $\frac{2}{3}$       d)  $\frac{17}{60}$

8 Stelle den angegebenen Bruch mithilfe des Geobretts dar. Umrande zunächst die Nägel, die das Ganze darstellen.

$\frac{2}{9}$

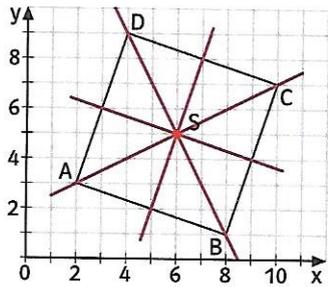
a)  $\frac{1}{3}$       b)  $\frac{5}{9}$       c)  $\frac{3}{8}$

## Zu Seite 23

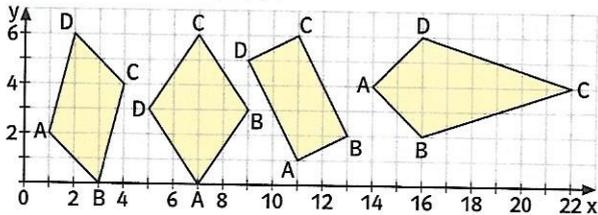
- 1 a) E7    b) E6    c) E5    d) B7
- 2 a) A(0|7), B(0|0), C(2|4), D(5|3), E(7|0), F(9|4), G(7|8), H(4|7)  
b) -

## Zu Seite 24

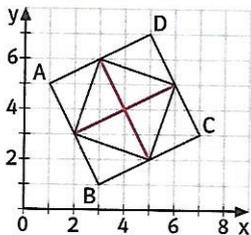
- 3 a) Quadrat    b) S(6|5)



- 4 D(9|5), A(1|2), D(16|6), C(7|6)



- 5 b) Quadrat    c) S(4|4)



## Zu Seite 25

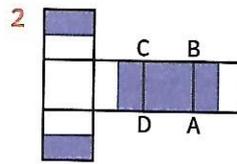
- 1  $a \perp f, a \perp h, b \perp e, c \perp g, d \perp e$
- 2  $a \parallel c, b \parallel d, e \parallel g, f \parallel h$

## Zu Seite 26

- 4 A: 2,5 cm, B: 1 cm, C: 1,5 cm, D: 3 cm
- 5 A: 3 cm, B: 2 cm, C: 1 cm, D: 2,5 cm, E: 1,5 cm
- 6 b) 7,1 cm

## Zu Seite 27

- 1 ein Beispiel: Quadrat; Eckpunkt: D(10|10)



- 3 gleichschenkelig-rechtwinkliges Dreieck über jede Quadratseite

## Zu Seite 28

- 4 a) 8    b) 60
- 5 -
- 6 a) 4,5 cm, 3,6 cm, 3,3 cm    b) 2,5 cm, 2,5 cm, 4,5 cm, 4,5 cm

## Zu Seite 29

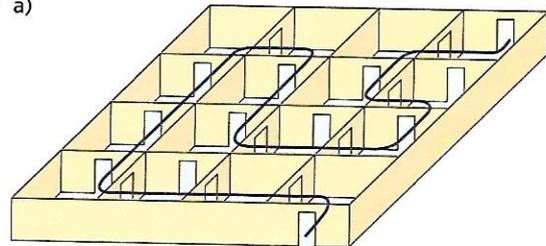
- 7 -

- 8 a)

Ebene Figuren							
Anzahl der Eckpunkte	4	5	6	7	8	9	10
Anzahl der Diagonalen	2	5	9	14	20	27	35

- b) Zahlenfolge: +3, +4, +5, +6, ...

- 9 a)



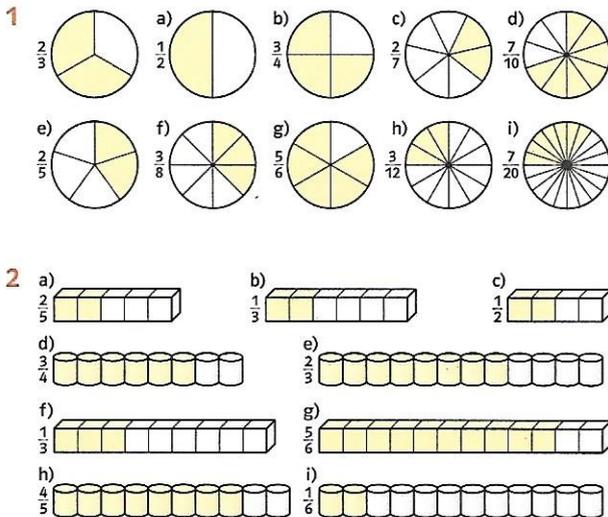
## Zu Seite 33

- 1 a)  $\frac{1}{2}$     b)  $\frac{1}{4}$     c)  $\frac{1}{12}$     d)  $\frac{1}{8}$
- 2 a)  $\frac{1}{4}$     b)  $\frac{1}{10}$     c)  $\frac{1}{15}$     d)  $\frac{1}{8}$     e)  $\frac{1}{4}$     f)  $\frac{1}{20}$
- 3 a)  $\frac{5}{9}$     b)  $\frac{4}{5}$     c)  $\frac{7}{12}$
- 4 a)  $\frac{5}{8} \cdot \frac{3}{8}$     b)  $\frac{7}{12} \cdot \frac{5}{12}$     c)  $\frac{7}{8} \cdot \frac{1}{8}$     d)  $\frac{3}{10} \cdot \frac{7}{10}$

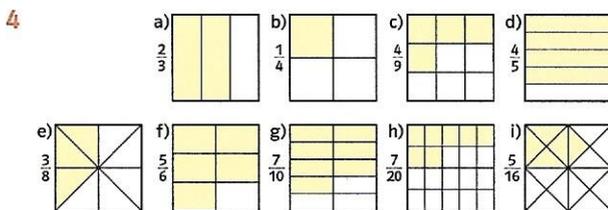
## Zu Seite 34

- 5 a)  $\frac{1}{4}, \frac{3}{4}$     b)  $\frac{1}{3}, \frac{2}{3}$     c)  $\frac{5}{16}, \frac{11}{16}$     d)  $\frac{2}{5}, \frac{3}{5}$   
 e)  $\frac{5}{12}, \frac{7}{12}$     f)  $\frac{3}{10}, \frac{7}{10}$     g)  $\frac{3}{8}, \frac{5}{8}$
- 6 a)  $\frac{1}{7}$  gelb,  $\frac{4}{7}$  grün,  $\frac{2}{7}$  blau    b)  $\frac{2}{8}$  gelb,  $\frac{5}{8}$  grün,  $\frac{1}{8}$  blau  
 c)  $\frac{4}{9}$  gelb,  $\frac{2}{9}$  grün,  $\frac{3}{9}$  blau    d)  $\frac{1}{6}$  gelb,  $\frac{3}{6}$  grün,  $\frac{2}{6}$  blau
- 7  $\frac{19}{60}$  rot,  $\frac{13}{60}$  gelb,  $\frac{11}{60}$  grün,  $\frac{17}{60}$  blau
- 8 a)  $\frac{1}{2}$  rot,  $\frac{1}{2}$  gelb    b)  $\frac{3}{4}$  rot,  $\frac{1}{4}$  gelb  
 c)  $\frac{1}{2}$  rot,  $\frac{1}{4}$  gelb,  $\frac{1}{8}$  grün,  $\frac{1}{8}$  blau  
 d)  $\frac{3}{4}$  rot,  $\frac{1}{8}$  gelb,  $\frac{1}{16}$  grün,  $\frac{1}{16}$  blau
- 9 a)  $\frac{1}{2}$     b)  $\frac{1}{4}$     c)  $\frac{3}{8}$

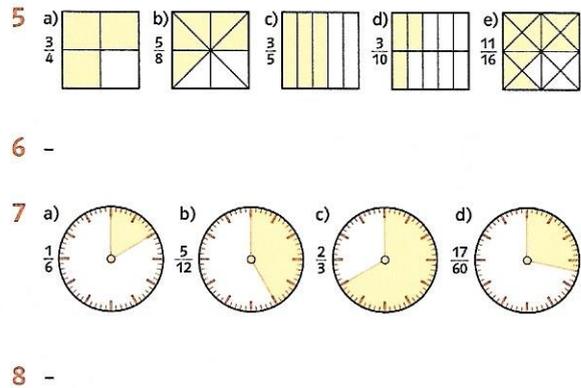
## Zu Seite 35



3 6 Kreise rot, 3 blau, 8 gelb



## Zu Seite 36



## Zu Seite 37

- 1 a)  $\frac{4}{6} = \frac{2}{3}$     b)  $\frac{9}{12} = \frac{3}{4}$     c)  $\frac{8}{20} = \frac{2}{5}$
- 2 a)  $\frac{4}{12} = \frac{1}{3}$     b)  $\frac{2}{8} = \frac{1}{4}$     c)  $\frac{6}{9} = \frac{2}{3}$     d)  $\frac{12}{20} = \frac{3}{5}$     e)  $\frac{10}{25} = \frac{2}{5}$
- 3 a)  $\frac{4}{10} = \frac{2}{5}$     b)  $\frac{9}{12} = \frac{3}{4}$     c)  $\frac{1}{4} = \frac{4}{16}$     d)  $\frac{12}{18} = \frac{2}{3}$     e)  $\frac{1}{3} = \frac{5}{15}$
- 4 a)  $\frac{12}{16} = \frac{3}{4}$     b)  $\frac{4}{8} = \frac{20}{40}$     c)  $\frac{8}{10} = \frac{32}{40}$

## Zu Seite 38

- 5 a) 3    b) 5    c) 8    d) 7    e) 5
- 6 a) 10    b) 7    c) 9    d) 6    e) 24
- 7 a) erweitert mit 3    b) gekürzt durch 5  
 c) erweitert mit 5    d) gekürzt durch 6  
 e) gekürzt durch 13    f) erweitert mit 6
- 8 a)  $\frac{8}{9} = \frac{16}{18} = \frac{15}{17} = \frac{30}{34}$     b)  $\frac{5}{6} = \frac{35}{42} = \frac{10}{11} = \frac{70}{77}$   
 c)  $\frac{7}{8} = \frac{63}{72} = \frac{5}{12} = \frac{45}{108}$     d)  $\frac{4}{9} = \frac{44}{99} = \frac{11}{20} = \frac{121}{220}$   
 e)  $\frac{2}{3} = \frac{26}{39} = \frac{4}{5} = \frac{52}{65}$     f)  $\frac{7}{8} = \frac{63}{72} = \frac{7}{10} = \frac{70}{90}$
- 9 a)  $\frac{4}{9}, \frac{8}{11}$     b)  $\frac{9}{10}, \frac{4}{11}$     c)  $\frac{1}{4}, \frac{5}{8}$     d)  $\frac{4}{6}, \frac{9}{10}$   
 e)  $\frac{3}{5}, \frac{2}{10}$     f)  $\frac{5}{6}, \frac{9}{10}$
- 10 a) 8    b) 33    c) 4    d) 11    e) 63  
 f) 7    g) 28    h) 3    i) 5    k) 4  
 l) 76    m) 120
- 11 a)  $\frac{3}{4}$     b)  $\frac{7}{12}$     c)  $\frac{5}{8}$     d)  $\frac{7}{10}$     e)  $\frac{3}{5}$   
 f)  $\frac{4}{5}$     g)  $\frac{4}{5}$     h)  $\frac{7}{10}$