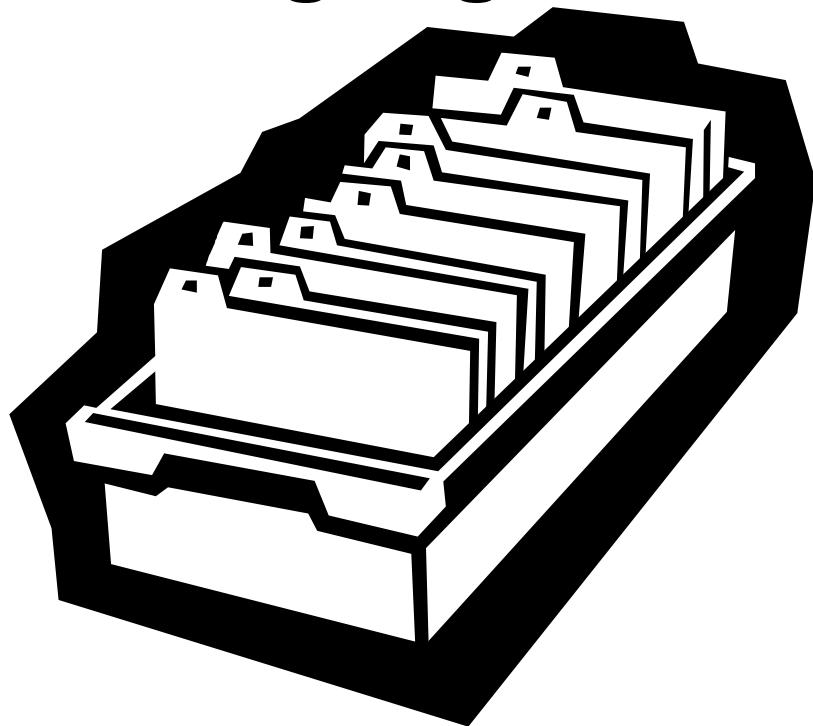


# Lösungen zu den Karteikarten für Intensivierungsstunden in Jahrgangsstufe 6



**Gruppe N**  
*(Brüche)*

– Angaben ohne Gewähr –

<b>Gruppe N</b>	<b>Thema:</b> <i>Brüche</i>	<b>Schwierigkeit:</b> <i>weiß</i>
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**N 01** a)  $3\frac{7}{12}$ ;  $9\frac{1}{11}$ ;  $7\frac{7}{8}$ ;  $10\frac{3}{14}$ ;  $11\frac{2}{11}$ ;  $21\frac{4}{21}$

b)  $\frac{145}{12}$ ;  $\frac{82}{11}$ ;  $\frac{294}{17}$ ;  $\frac{174}{13}$ ;  $\frac{47}{21}$

c)  $\frac{5}{12}$ ;  $\frac{4}{33}$ ;  $\frac{2}{11}$ ;  $\frac{1}{3}$ ;  $\frac{1}{2}$ ;  $\frac{3}{4}$

<b>Gruppe N</b>	<b>Thema:</b> <i>Brüche</i>	<b>Schwierigkeit:</b> <i>weiß</i>
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**N 02** a)  $4\frac{3}{11}$ ;  $7\frac{9}{13}$ ;  $4\frac{5}{16}$ ;  $10\frac{1}{5}$ ;  $12\frac{1}{4}$ ;  $22\frac{3}{22}$

b)  $\frac{117}{13}$ ;  $\frac{104}{11}$ ;  $\frac{329}{18}$ ;  $\frac{129}{11}$ ;  $\frac{107}{51}$

c)  $\frac{1}{4}$ ;  $\frac{2}{11}$ ;  $\frac{3}{11}$ ;  $\frac{1}{4}$ ;  $\frac{1}{2}$ ;  $\frac{3}{8}$

<b>Gruppe N</b>	<b>Thema:</b> <i>Brüche</i>	<b>Schwierigkeit:</b> <i>weiß</i>
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**N 03** a)  $5\frac{2}{11}$ ;  $5\frac{15}{17}$ ;  $4\frac{3}{8}$ ;  $10\frac{3}{17}$ ;  $13\frac{1}{13}$ ;  $18\frac{5}{18}$

b)  $\frac{257}{16}$ ;  $\frac{75}{13}$ ;  $\frac{201}{14}$ ;  $\frac{107}{10}$ ;  $\frac{1045}{521}$

c)  $\frac{3}{4}$ ;  $\frac{1}{4}$ ;  $\frac{5}{11}$ ;  $\frac{1}{2}$ ;  $\frac{5}{6}$ ;  $\frac{3}{2}$

<b>Gruppe N</b>	<b>Thema:</b> <i>Brüche</i>	<b>Schwierigkeit:</b> <i>weiß</i>
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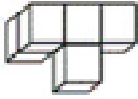
**N 04** a)  $6\frac{1}{11}$ ;  $5\frac{5}{19}$ ;  $3\frac{11}{13}$ ;  $10\frac{1}{6}$ ;  $14\frac{3}{14}$ ;  $19\frac{2}{19}$

b)  $\frac{50}{7}$ ;  $\frac{88}{15}$ ;  $\frac{179}{13}$ ;  $\frac{129}{11}$ ;  $\frac{725}{361}$

c)  $\frac{1}{5}$ ;  $\frac{3}{13}$ ;  $\frac{1}{4}$ ;  $\frac{1}{2}$ ;  $\frac{10}{13}$ ;  $\frac{9}{8}$

<b>Gruppe N</b>	<b>Thema:</b> <i>Brüche</i>	<b>Schwierigkeit:</b> <i>gelb</i>
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**N 01** a)



$$\begin{array}{l}
 50\% = \frac{50}{100} = \frac{1}{2} = \frac{15}{30} \\
 \frac{3}{5} = \frac{18}{30} \\
 \frac{1}{3} = \frac{10}{30} \\
 \frac{1}{2} = \frac{15}{30} \\
 \frac{5}{6} = \frac{25}{30} \\
 \left. \begin{array}{l}
 \frac{3}{5} = \frac{18}{30} \\
 \frac{1}{3} = \frac{10}{30} \\
 \frac{1}{2} = \frac{15}{30} \\
 \frac{5}{6} = \frac{25}{30}
 \end{array} \right\} -\frac{1}{2} < -\frac{1}{3} < 50\% < \frac{3}{5} < \frac{5}{6}
 \end{array}$$

c)

$$\begin{array}{l}
 8\% = \frac{8}{100} = \frac{2}{25} \\
 \frac{3}{25} = \frac{12}{100} = \frac{3}{25} \\
 \frac{1}{5} = \frac{20}{100} = \frac{5}{25} \\
 \frac{8}{50} = \frac{16}{100} = \frac{4}{25} \\
 \frac{16}{20} = \frac{80}{100} = \frac{20}{25}
 \end{array}$$

<b>Gruppe N</b>	<b>Thema:</b> <i>Brüche</i>	<b>Schwierigkeit:</b> <i>gelb</i>
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**N 02** a) Gesamte Gütermenge: 100 Mio. t; Bahn: 40 Mio. t

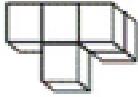
$$\text{Bruchteil: } \frac{40}{100} = \frac{2}{5}$$

b) Anzahl der LKW:  $100\,000\,000\text{ t} : 20\text{ t} = 5\,000\,000$

$$\text{Länge: } 5\,000\,000 \cdot 12\text{ m} = 60\,000\,000\text{ m} = \mathbf{60\,000\text{ km}}$$

<b>Gruppe N</b>	<b>Thema:</b> <i>Brüche</i>	<b>Schwierigkeit:</b> <i>gelb</i>
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N 03 a)

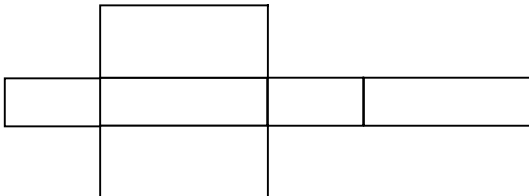


$$\left. \begin{array}{l}
 40\% = \frac{40}{100} = \frac{8}{20} \\
 \frac{3}{5} = \frac{12}{20} \\
 -\frac{1}{2} = -\frac{10}{20} \\
 -\frac{1}{5} = -\frac{4}{20} \\
 \frac{3}{4} = \frac{15}{20}
 \end{array} \right\} -\frac{1}{2} < -\frac{1}{5} < 40\% < \frac{3}{5} < \frac{3}{4}$$

$$\begin{array}{l}
 10\% = \frac{10}{100} \\
 \frac{3}{25} = \frac{12}{100} \\
 \frac{1}{2} = \frac{50}{100} \\
 -\frac{3}{5} = -\frac{60}{100} \\
 \frac{3}{5} = \frac{15}{20} \\
 \frac{3}{20} = \frac{15}{100}
 \end{array}$$

<b>Gruppe N</b>	<b>Thema:</b> <i>Brüche</i>	<b>Schwierigkeit:</b> <i>gelb</i>
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N 04 a) z.B.



Beachte, dass die einander berührenden Rechtecksseiten dieselbe Länge haben.

b) Rechteck besteht aus 12 kleinen Rechtecken. 5 davon sind nicht grau, also 7 grau;

Es ist ein Bruchteil von  $\frac{7}{12}$  grau gefärbt.

$$\begin{array}{l}
 25\% = \frac{25}{100} = \frac{50}{200} \\
 \frac{3}{2} = \frac{300}{200} \\
 \frac{1}{2} = \frac{100}{200} \\
 \frac{1}{8} = \frac{25}{200} \\
 \frac{3}{4} = \frac{150}{200}
 \end{array}$$

<b>Gruppe N</b>	<b>Thema:</b> <i>Brüche</i>	<b>Schwierigkeit:</b> <i>grün</i>
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**N 01** a)  $1,52 = 1\frac{52}{100} = 1\frac{13}{25}$ ;  $\frac{3}{5} = \frac{6}{10} = 0,6$ ;  $-\frac{1}{16} = -\frac{5 \cdot 5 \cdot 5 \cdot 5}{2 \cdot 2 \cdot 2 \cdot 2 \cdot 5 \cdot 5 \cdot 5 \cdot 5} = -\frac{625}{10000} = -0,0625$   
 $-\frac{1}{2} = -0,5$ ;  $\frac{1}{4} = 0,25$

b) 
$$\left. \begin{array}{l} 0,32 \\ 150\% = 1,5 \\ \frac{1}{5} = \frac{2}{10} = 0,2 \\ \frac{8}{50} = \frac{16}{100} = 0,16 \\ \frac{16}{20} = \frac{8}{10} = 0,8 \end{array} \right\} 0,16 < 0,2 < 0,32 < 0,8 < 1,5$$

<b>Gruppe N</b>	<b>Thema:</b> <i>Brüche</i>	<b>Schwierigkeit:</b> <i>grün</i>
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**N 02** a)  $1,42 = 1\frac{42}{100} = 1\frac{21}{50}$ ;  $\frac{3}{40} = \frac{75}{1000} = 0,075$ ;  $-\frac{3}{16} = -\frac{3 \cdot 5 \cdot 5 \cdot 5 \cdot 5}{2 \cdot 2 \cdot 2 \cdot 2 \cdot 5 \cdot 5 \cdot 5 \cdot 5} = -\frac{1875}{10000} = -0,1875$   
 $-\frac{1}{2} = -0,5$ ;  $\frac{1}{4} = 0,25$

b) 
$$\left. \begin{array}{l} 0,22 \\ 250\% = 2,5 \\ \frac{2}{5} = \frac{4}{10} = 0,4 \\ \frac{2}{50} = \frac{4}{100} = 0,04 \\ \frac{11}{20} = \frac{55}{100} = 0,55 \end{array} \right\} 0,04 < 0,22 < 0,4 < 0,55 < 2,5$$

<b>Gruppe N</b>	<b>Thema:</b> <i>Brüche</i>	<b>Schwierigkeit:</b> <i>grün</i>
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**N 03**  $1,53; \frac{3}{12}; -\frac{5}{16}; -2\frac{1}{2}; 1\frac{3}{4};$

a)  $1,42 = 1\frac{42}{100} = 1\frac{21}{50}; \quad \frac{3}{40} = \frac{75}{1000} = 0,075; \quad -\frac{3}{16} = -\frac{3 \cdot 5 \cdot 5 \cdot 5 \cdot 5}{2 \cdot 2 \cdot 2 \cdot 2 \cdot 5 \cdot 5 \cdot 5 \cdot 5} = -\frac{1875}{10000} = -0,1875$

$-\frac{1}{2} = -0,5; \quad \frac{1}{4} = 0,25$

$0,12; 50\%; \frac{4}{5}; -\frac{3}{50}; \frac{11}{25};$

b) 
$$\left. \begin{array}{l} 0,22 \\ 250\% = 2,5 \\ \frac{2}{5} = \frac{4}{10} = 0,4 \\ \frac{2}{50} = \frac{4}{100} = 0,04 \\ \frac{11}{20} = \frac{55}{100} = 0,55 \end{array} \right\} 0,04 < 0,22 < 0,4 < 0,55 < 2,5$$

<b>Gruppe N</b>	<b>Thema:</b> <i>Brüche</i>	<b>Schwierigkeit:</b> <i>grün</i>
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**N 04**  $1,55; \frac{28}{35}; -\frac{11}{40}; -2\frac{2}{5}; 1\frac{1}{4};$

a)  $1,42 = 1\frac{42}{100} = 1\frac{21}{50}; \quad \frac{3}{40} = \frac{75}{1000} = 0,075; \quad -\frac{3}{16} = -\frac{3 \cdot 5 \cdot 5 \cdot 5 \cdot 5}{2 \cdot 2 \cdot 2 \cdot 2 \cdot 5 \cdot 5 \cdot 5 \cdot 5} = -\frac{1875}{10000} = -0,1875$

$-\frac{1}{2} = -0,5; \quad \frac{1}{4} = 0,25$

$0,02; 5\%; \frac{1}{5}; -\frac{21}{50}; \frac{3}{125};$

b) 
$$\left. \begin{array}{l} 0,22 \\ 250\% = 2,5 \\ \frac{2}{5} = \frac{4}{10} = 0,4 \\ \frac{2}{50} = \frac{4}{100} = 0,04 \\ \frac{11}{20} = \frac{55}{100} = 0,55 \end{array} \right\} 0,04 < 0,22 < 0,4 < 0,55 < 2,5$$

