AH – S.20 – Nr.3.1

a1) $\frac{3}{4}+\left(\frac{1}{2}-\frac{2}{5}\right)=\frac{3\cdot5+10-2\cdot4}{20}=\frac{15+10-8}{20}=\frac{17}{20}$ Klammer einfach weglassen

a2) $\frac{7}{9}-\left(\frac{2}{5}+\frac{1}{3}\right)=\frac{7\cdot5-2\cdot9-15}{45}=\frac{35-18-15}{45}=\frac{2}{45}$ Klammer weglassen, aber Zeichenwechsel!

a3) $\left(\frac{2}{7}+\frac{3}{4}\right)-\frac{9}{14}=\frac{2\cdot4+3\cdot7-9\cdot2}{28}=\frac{8+21-18}{28}=\frac{11}{28}$

a4) $\frac{2}{3}-\left(\frac{1}{6}+\frac{2}{5}\right)+\frac{3}{10}=\frac{2\cdot10-5-2\cdot6+3\cdot3}{30}=\frac{20-5-12+9}{30}=\frac{\cancel{12}^{2}}{\cancel{30}_{5}}=\frac{2}{5}$ Klammer weglassen, aber Zeichenwechsel!

b1) $\frac{3x}{5}+\frac{x}{5}=\frac{4x}{5}$

b2) $\frac{a}{7}+\frac{3a}{14}=\frac{2a+3a}{14}=\frac{5a}{14}$

b3) $\frac{5y}{8}-\left(\frac{5y}{12}+\frac{y}{3}\right)=\frac{5y\cdot3-5y\cdot2-y\cdot8}{24}=\frac{15y-10y-8y}{24}=-\frac{\cancel{3}^{1}y}{\cancel{24}_{8}}=-\frac{y}{8}$ Klammer weglassen, aber Zeichenwechsel!

b4) $\frac{2m}{3}-\left(\frac{3n}{4}-\frac{2m}{5}\right)=\frac{2m\cdot20-3n\cdot15+2m\cdot12}{60}=\frac{40m-45n+24m}{60}=\frac{64m-45n}{60}$

Klammer weglassen, aber Zeichenwechsel!

c1) $\frac{15}{2a}+\frac{3}{2a}=\frac{\cancel{18}^{9}}{\cancel{2}_{1}a}=\frac{9}{a}$

c2) $\frac{7}{8b}-\frac{3}{5b}=\frac{7\cdot5-3\cdot8}{40b}=\frac{35-24}{40b}=\frac{11}{40b}$

c3) $\frac{2b}{7c}-\frac{b}{5c}=\frac{2b\cdot5-b\cdot7}{35c}=\frac{10b-7b}{35c}=\frac{3b}{35c}$

c4) $\frac{2b+3a}{6}-\frac{a+b}{3}=\frac{2b+3a-2(a+b)}{6}=\frac{2b+3a-2a-2b}{6}=\frac{a}{6}$

AH – S.20 – Nr.3.1

d1) $\frac{5r+2s}{8}+\frac{2s-r}{8}=\frac{5r+2s+(2s-r)}{8}=\frac{5r+2s+2s-r}{8}=\frac{4r+4s}{8}=\frac{\overset{1}{\cancel{4}}(r+s)}{\underset{2}{\cancel{8}}}=\frac{r+s}{2}$ das + gilt für den ganzen Bruch

d2) $\frac{x-3y}{7}-\frac{y-3x}{2}=\frac{2(x-3y)-7(y-3x)}{14}=\frac{2x-6y-7y+21x}{14}=\frac{23x-13x}{14}$ Achtung Vorzeichenregeln!

d3) $\frac{10d+7c}{2c}-\frac{4}{1}=\frac{10d+7c-4\cdot 2c}{2c}=\frac{10d+7c-8c}{2c}=\frac{10d-c}{2c}$ Zahl ohne Nenner hat den Nenner 1!

d4) $\frac{-3e}{1}+\frac{7-6ef}{f}=\frac{-3ef+7-6ef}{f}=\frac{-9ef+7}{f}$ Zahl ohne Nenner hat den Nenner 1!