

Correction : Partie 2

Niveau 1 :

1) Simplifiez par 3, si c'est possible, les fractions suivantes :

$$\frac{21}{18} = \frac{\cancel{3} \times 7}{3 \times 2 \times \cancel{3}} = \frac{7}{6} ; \frac{15}{12} = \frac{\cancel{3} \times 5}{2 \times 2 \times \cancel{3}} = \frac{5}{4} ; \frac{12}{9} = \frac{2 \times \cancel{3} \times 2}{3 \times \cancel{3}} = \frac{4}{3} ; \frac{18}{14} = \frac{2 \times 3 \times 3}{2 \times 7} \text{ on ne peut pas simplifier par 3} = \frac{18}{14}$$

$$\frac{24}{15} = \frac{2 \times \cancel{3} \times 2 \times 2}{\cancel{3} \times 5} = \frac{8}{5} ; \frac{27}{21} = \frac{3 \times \cancel{3} \times 3}{\cancel{3} \times 7} = \frac{9}{7} ; \frac{33}{51} = \frac{\cancel{3} \times 11}{\cancel{3} \times 17} = \frac{11}{17} ; \frac{45}{36} = \frac{\cancel{3} \times 3 \times 5}{2 \times 3 \times 2 \times \cancel{3}} = \frac{15}{12} \text{ on ne simplifie pas plus. Si on avait simplifié à nouveau par 3 nous aurions simplifié par 9, c'est-à-dire } 3 \times 3$$

$$\frac{15}{39} = \frac{\cancel{3} \times 5}{\cancel{3} \times 13} = \frac{5}{13} ; \frac{6}{12} = \frac{2 \times \cancel{3}}{2 \times \cancel{3} \times 2} = \frac{2}{4}$$

2) Simplifiez par 2, si c'est possible, les fractions suivantes :

$$\frac{4}{6} = \frac{2 \times \cancel{2}}{\cancel{2} \times 3} = \frac{2}{3} ; \frac{12}{18} = \frac{2 \times 3 \times \cancel{2}}{\cancel{2} \times 3 \times 3} = \frac{6}{9} ; \frac{14}{16} = \frac{\cancel{2} \times 7}{\cancel{2} \times 2 \times 2 \times 2} = \frac{7}{8} ; \frac{20}{10} = \frac{\cancel{2} \times 2 \times 5}{\cancel{2} \times 5} = \frac{10}{5}$$

$$\frac{16}{12} = \frac{\cancel{2} \times 2 \times 2 \times 2}{\cancel{2} \times 2 \times 3} = \frac{8}{6} \text{ on ne simplifie pas plus sinon on aurait simplifié par 4} ; \frac{15}{22} = \frac{3 \times 5}{2 \times 11} = \frac{15}{22} \text{ on ne peut pas simplifier}$$

$$\frac{10}{28} = \frac{\cancel{2} \times 5}{\cancel{2} \times 7 \times 2} = \frac{5}{14} ; \frac{24}{26} = \frac{\cancel{2} \times 2 \times 2 \times 3}{\cancel{2} \times 13} = \frac{12}{13} ; \frac{26}{32} = \frac{\cancel{2} \times 13}{\cancel{2} \times 2 \times 2 \times 2 \times 2} = \frac{13}{16} ; \frac{28}{56} = \frac{\cancel{2} \times 2 \times 7}{\cancel{2} \times 2 \times 2 \times 7} = \frac{14}{28}$$

3) Simplifiez par 5, si c'est possible, les fractions suivantes :

$$\frac{15}{25} = \frac{3 \times \cancel{5}}{5 \times \cancel{5}} = \frac{3}{5} ; \frac{12}{15} = \frac{2 \times 2 \times 3}{3 \times 5} = \frac{12}{15} \text{ on ne peut pas simplifier par 5} ; \frac{20}{16} = \frac{2 \times 2 \times 5}{2 \times 2 \times 2 \times 2} = \frac{20}{16} \text{ on ne peut pas simplifier par 5} ; \frac{35}{25} = \frac{7 \times \cancel{5}}{\cancel{5} \times 5} = \frac{7}{5}$$

$$\frac{65}{60} = \frac{\cancel{5} \times 13}{\cancel{5} \times 2 \times 2 \times 3} = \frac{13}{12} ; \frac{50}{25} = \frac{2 \times \cancel{5} \times 5}{\cancel{5} \times 5} = \frac{10}{5} \text{ on ne simplifie pas plus, sinon sinon on aurait simplifié par 25} ; \frac{25}{15} = \frac{\cancel{5} \times 5}{3 \times \cancel{5}} = \frac{5}{3}$$

$$\frac{45}{30} = \frac{\cancel{5} \times 3 \times 3}{\cancel{5} \times 3 \times 2} = \frac{9}{6} ; \frac{100}{125} = \frac{2 \times \cancel{5} \times 2 \times 5}{\cancel{5} \times 5 \times 5} = \frac{20}{25} \text{ on ne simplifie pas plus, sinon on aurait simplifié par 25} ; \frac{105}{135} = \frac{\cancel{5} \times 3 \times 7}{3 \times 3 \times 3 \times \cancel{5}} = \frac{21}{27}$$

4) Simplifiez par 6, si c'est possible, les fractions suivantes :

$$\frac{24}{12} = \frac{2 \times \cancel{3} \times 2 \times 2}{\cancel{2} \times \cancel{3} \times 2} = \frac{4}{2} ; \frac{30}{18} = \frac{\cancel{2} \times \cancel{3} \times 5}{\cancel{3} \times \cancel{3} \times 2} = \frac{5}{3} ; \frac{42}{24} = \frac{\cancel{2} \times \cancel{3} \times 7}{2 \times 2 \times \cancel{2} \times \cancel{3}} = \frac{7}{4} ; \frac{21}{12} = \frac{3 \times 7}{2 \times 2 \times 3} = \frac{21}{12} ; \frac{66}{12} = \frac{\cancel{2} \times \cancel{3} \times 11}{\cancel{2} \times \cancel{3} \times 2} = \frac{11}{2}$$

On ne peut pas simplifier par 6

$$\frac{48}{30} = \frac{\cancel{2} \times 2 \times 2 \times \cancel{3} \times 2}{\cancel{2} \times \cancel{3} \times 5} = \frac{8}{5} ; \frac{36}{24} = \frac{\cancel{2} \times \cancel{3} \times 2 \times 3}{\cancel{2} \times \cancel{3} \times 2 \times 2} = \frac{6}{4} ; \frac{72}{78} = \frac{\cancel{2} \times 2 \times 2 \times 3 \times \cancel{3}}{\cancel{2} \times \cancel{3} \times 13} = \frac{12}{13} ; \frac{90}{78} = \frac{\cancel{2} \times 5 \times 3 \times \cancel{3}}{\cancel{2} \times \cancel{3} \times 13} = \frac{15}{13} ; \frac{24}{54} = \frac{\cancel{2} \times \cancel{3} \times 2 \times 2}{\cancel{2} \times \cancel{3} \times 3 \times 3} = \frac{4}{9}$$

Niveau 2 :

$$1) \frac{15}{35} = \frac{3 \times 5}{5 \times 7} = \frac{3}{7}; \frac{32}{12} = \frac{2 \times 2 \times 2 \times 2}{2 \times 2 \times 3} = \frac{8}{3}; \frac{26}{36} = \frac{2 \times 13}{2 \times 3 \times 2 \times 3} = \frac{13}{18}; \frac{28}{46} = \frac{2 \times 2 \times 7}{2 \times 23} = \frac{14}{23};$$

$$\frac{38}{52} = \frac{2 \times 19}{2 \times 2 \times 13} = \frac{19}{26}; \frac{27}{18} = \frac{3 \times 3 \times 3}{3 \times 3 \times 2} = \frac{3}{2}; \frac{36}{56} = \frac{2 \times 3 \times 3 \times 2}{2 \times 2 \times 2 \times 7} = \frac{9}{14}; \frac{26}{39} = \frac{2 \times 13}{3 \times 13} = \frac{2}{3}; \frac{42}{84} = \frac{2 \times 3 \times 7}{2 \times 2 \times 3 \times 7} = \frac{1}{2}$$

$$2) \frac{26}{39} = \frac{2 \times 13}{3 \times 13} = \frac{2}{3}; \frac{34}{24} = \frac{2 \times 17}{2 \times 2 \times 2 \times 3} = \frac{17}{12}; \frac{50}{75} = \frac{5 \times 5 \times 2}{5 \times 5 \times 3} = \frac{2}{3}; \frac{28}{21} = \frac{2 \times 2 \times 7}{3 \times 7} = \frac{4}{3}; \frac{36}{64} = \frac{2 \times 3 \times 2 \times 3}{2 \times 2 \times 2 \times 2 \times 2} = \frac{9}{16};$$

$$\frac{56}{48} = \frac{2 \times 2 \times 2 \times 7}{2 \times 2 \times 2 \times 3} = \frac{7}{6}; \frac{105}{84} = \frac{5 \times 3 \times 7}{2 \times 2 \times 3 \times 7} = \frac{5}{4}; \frac{63}{147} = \frac{3 \times 3 \times 7}{3 \times 7 \times 7} = \frac{3}{7}; \frac{64}{72} = \frac{2 \times 2 \times 2 \times 2 \times 2 \times 2}{2 \times 2 \times 2 \times 3 \times 3} = \frac{8}{9}; \frac{81}{36} = \frac{3 \times 3 \times 3 \times 3}{2 \times 3 \times 2 \times 3} = \frac{9}{4}$$

$$3) \frac{75}{60} = \frac{5 \times 5 \times 3}{2 \times 3 \times 2 \times 5} = \frac{5}{4}; \frac{315}{162} = \frac{5 \times 3 \times 3 \times 7}{2 \times 3 \times 3 \times 3 \times 3} = \frac{35}{18}; \frac{630}{486} = \frac{5 \times 2 \times 3 \times 3 \times 7}{3 \times 2 \times 3 \times 3 \times 3 \times 3} = \frac{35}{27}; \frac{168}{180} = \frac{2 \times 2 \times 2 \times 3 \times 7}{3 \times 3 \times 2 \times 2 \times 5} = \frac{14}{15}$$

$$\frac{273}{504} = \frac{3 \times 7 \times 13}{3 \times 2 \times 2 \times 2 \times 3 \times 7} = \frac{13}{24}; \frac{195}{585} = \frac{5 \times 3 \times 13}{5 \times 3 \times 3 \times 13} = \frac{1}{3}; \frac{357}{459} = \frac{3 \times 7 \times 17}{3 \times 3 \times 3 \times 17} = \frac{7}{9};$$

$$\frac{231}{528} = \frac{3 \times 7 \times 11}{3 \times 2 \times 11 \times 2 \times 2 \times 2} = \frac{7}{16}; \frac{315}{108} = \frac{5 \times 3 \times 3 \times 7}{3 \times 2 \times 3 \times 2 \times 3} = \frac{35}{12}$$

Niveau 3 :

$$1) \frac{147}{126} = \frac{3 \times 7 \times 7}{3 \times 3 \times 2 \times 7} = \frac{7}{6}; \frac{156}{78} = \frac{2 \times 2 \times 3 \times 13}{2 \times 3 \times 13} = 2; \frac{168}{650} = \frac{3 \times 2 \times 2 \times 2 \times 7}{2 \times 5 \times 5 \times 13} = \frac{84}{325}; \frac{1296}{1512} = \frac{2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 3}{2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 7} = \frac{6}{7}$$

$$\frac{105}{150} = \frac{5 \times 3 \times 7}{3 \times 5 \times 2 \times 5} = \frac{7}{10}; \frac{693}{576} = \frac{3 \times 11 \times 3 \times 7}{3 \times 3 \times 2 \times 2 \times 2 \times 2 \times 2} = \frac{77}{64}; \frac{360}{765} = \frac{2 \times 5 \times 2 \times 3 \times 2 \times 3}{5 \times 3 \times 3 \times 17} = \frac{8}{17}; \frac{720}{225} = \frac{5 \times 2 \times 2 \times 2 \times 3 \times 2 \times 3}{5 \times 5 \times 3 \times 3} = \frac{16}{5}$$

$$2) \frac{650}{225} = \frac{5 \times 2 \times 5 \times 13}{5 \times 5 \times 3 \times 3} = \frac{26}{9}; \frac{1134}{630} = \frac{2 \times 3 \times 3 \times 3 \times 3 \times 7}{2 \times 5 \times 3 \times 3 \times 7} = \frac{9}{5}; \frac{675}{324} = \frac{5 \times 5 \times 3 \times 3 \times 3}{2 \times 2 \times 3 \times 3 \times 3 \times 3} = \frac{25}{12}; \frac{728}{900} = \frac{2 \times 2 \times 2 \times 7 \times 13}{2 \times 5 \times 2 \times 5 \times 3 \times 3} = \frac{182}{225}$$

$$\frac{180}{720} = \frac{3 \times 2 \times 3 \times 2 \times 5}{2 \times 5 \times 2 \times 3 \times 2 \times 3 \times 2} = \frac{1}{4}; \frac{342}{285} = \frac{2 \times 3 \times 3 \times 19}{5 \times 3 \times 19} = \frac{6}{5}; \frac{1300}{900} = \frac{13 \times 5 \times 2 \times 5 \times 2}{3 \times 3 \times 2 \times 5 \times 2 \times 5} = \frac{13}{9}; \frac{1568}{1300} = \frac{3 \times 523}{13 \times 5 \times 2 \times 5 \times 2} = \frac{1568}{1300}$$

$$3) \frac{3969}{3780} = \frac{3 \times 3 \times 3 \times 3 \times 7 \times 7}{2 \times 5 \times 3 \times 3 \times 3 \times 2 \times 7} = \frac{21}{20}; \frac{2898}{2576} = \frac{3 \times 3 \times 2 \times 7 \times 23}{2 \times 2 \times 2 \times 2 \times 7 \times 23} = \frac{9}{8};$$

$$\frac{7056}{15876} = \frac{2 \times 2 \times 2 \times 2 \times 3 \times 7 \times 3 \times 7}{2 \times 2 \times 3 \times 3 \times 3 \times 3 \times 7 \times 7} = \frac{4}{9}; \frac{33750}{10125} = \frac{5 \times 5 \times 5 \times 5 \times 2 \times 3 \times 3 \times 3}{5 \times 5 \times 5 \times 3 \times 3 \times 3 \times 3} = \frac{10}{3}$$

$$\frac{13720}{11025} = \frac{2 \times 5 \times 2 \times 2 \times 7 \times 7 \times 7}{5 \times 5 \times 3 \times 3 \times 7 \times 7} = \frac{56}{45}; \frac{24696}{27783} = \frac{2 \times 2 \times 2 \times 3 \times 3 \times 7 \times 7 \times 7}{3 \times 3 \times 3 \times 3 \times 7 \times 7 \times 7} = \frac{8}{9}$$