

Mathématiques 603/4

NOM :

CC07-603 30 min

Prénom :

Donner le résultat sous forme simplifiée au maximum.

Exercice 1 [3 pts]

$$\frac{45}{30} =$$

$$\frac{22}{110} =$$

$$\frac{300}{125} =$$

Exercice 2 [2 pts]

$$\frac{13}{14} \times 7 =$$

$$\frac{7}{2} \times \frac{6}{5} =$$

Exercice 3 [3 pts]

$$\frac{13}{4} - \frac{2}{4} =$$

$$\frac{33}{17} + \frac{1}{17} =$$

$$\frac{6}{7} + 5 =$$

Exercice 4 [3 pts]

$$\frac{19}{5} - \frac{1}{10} =$$

$$\frac{5}{21} + \frac{2}{7} =$$

Exercice 5 [3 pts] Donner l'écriture à l'américaine de

$$\frac{17}{8} =$$

$$\frac{461}{12} =$$

Exercice 6 [2 pts]

$$\frac{5}{12} + \frac{3}{4} - \frac{1}{6} =$$

Exercice 7 [2 pts]

$$3,4 + \frac{2}{7} =$$

Exercice 8 [2 pts]

Jean a mangé $\frac{5}{14}$ du gâteau de 868 grammes fait par maman : combien de grammes de gâteau Jean a-t-il mangé ?

Corrigé

Exercice 1

$$\bullet \frac{45}{30} = \frac{\boxed{15} \times 3}{\boxed{15} \times 2} = \frac{3}{2} \quad \bullet \frac{22}{110} = \frac{\boxed{11} \times 2}{\boxed{11} \times 10} = \frac{2 \times 1}{2 \times 5} = \frac{1}{5}$$

$$\bullet \frac{300}{125} = \frac{\boxed{25} \times 12}{\boxed{25} \times 5} = \frac{12}{5}$$

Exercice 2

$$\bullet \frac{13}{14} \times 7 = \frac{13}{14} \times \frac{7}{1} = \frac{13 \times 7}{14 \times 1} = \frac{13 \times \boxed{7}}{\boxed{7} \times 2 \times 1} = \frac{13}{2}$$

$$\bullet \frac{7}{2} \times \frac{6}{5} = \frac{7 \times 6}{2 \times 5} = \frac{7 \times \boxed{2} \times 3}{\boxed{2} \times 5} = \frac{21}{5}$$

Exercice 3

$$\bullet \frac{13}{4} - \frac{2}{4} = \frac{13 - 2}{4} = \frac{11}{4}$$

$$\bullet \frac{33}{17} + \frac{1}{17} = \frac{33 + 1}{17} = \frac{34}{17} = \frac{\boxed{17} \times 2}{\boxed{17} \times 1} = \frac{2}{1} = 2$$

$$\bullet \frac{6}{7} + 5 = \frac{6}{7} + \frac{5}{1} = \frac{6}{7} + \frac{5 \times 7}{1 \times 7} = \frac{6}{7} + \frac{35}{7} = \frac{6 + 35}{7} = \frac{41}{7}$$

Exercice 4

$$\bullet \frac{19}{5} - \frac{1}{10} = \frac{19 \times \boxed{2}}{5 \times \boxed{2}} - \frac{1}{10} = \frac{38}{10} - \frac{1}{10} = \frac{38 - 1}{10} = \frac{37}{10}$$

$$\bullet \frac{5}{21} + \frac{2}{7} = \frac{5}{21} + \frac{2 \times \boxed{3}}{7 \times \boxed{3}} = \frac{5}{21} + \frac{6}{21} = \frac{5 + 6}{21} = \frac{11}{21}$$

Exercice 5 [écriture à l'américaine]

$$\bullet \frac{17}{8} = \frac{2 \times 8 + 1}{8} = \frac{2 \times 8}{8} + \frac{1}{8} = 2 + \frac{1}{8}$$

• En posant la division euclidienne de 457 par 12 on obtient :

$$461 = 38 \times 12 + 5$$

$$\frac{461}{12} = \frac{38 \times 12 + 5}{12} = \frac{38 \times 12}{12} + \frac{5}{12} = 38 + \frac{5}{12}$$

Exercice 6

$$\bullet \frac{5}{12} + \frac{3}{4} - \frac{1}{6} = \frac{5}{12} + \frac{3 \times 3}{4 \times 3} - \frac{1 \times 2}{6 \times 2} = \frac{5}{12} + \frac{9}{12} - \frac{2}{12} \\ = \frac{5 + 9 - 2}{12} = \frac{12}{12} = 1$$

Exercice 7

$$\bullet 3,4 + \frac{2}{7} = \frac{34}{10} + \frac{2}{7} = \frac{\boxed{2} \times 17}{\boxed{2} \times 5} + \frac{2}{7} = \frac{17}{5} + \frac{2}{7} \\ = \frac{17 \times \boxed{7}}{5 \times \boxed{7}} + \frac{2 \times \boxed{5}}{7 \times \boxed{5}} = \frac{119}{35} + \frac{10}{35} = \frac{119 + 10}{35} = \frac{129}{35}$$

Exercice 8

$$\frac{5}{14} \times 868 = \frac{5 \times 868}{14} = \frac{5 \times 62 \times 14}{14 \times 1} = 5 \times 62 = 310$$

Jean a mangé 310 grammes du gâteau de maman.