

CORRECTION – Soutien 1 – Fractions

Exercise 1 :

$$\frac{14}{21} = \frac{2 \times 7}{3 \times 7} = \frac{2}{3}$$

$$\frac{12}{28} = \frac{2 \times 2 \times 3}{2 \times 2 \times 7} = \frac{3}{7}$$

$$\frac{50}{15} = \frac{2 \times 5 \times 5}{3 \times 5} = \frac{10}{3}$$

$$\frac{35}{110} = \frac{5 \times 7}{2 \times 5 \times 11} = \frac{7}{22}$$

Exercise 2 :

$$1. \quad \frac{2}{3} + \frac{5}{6} = \frac{2 \times 2}{3 \times 2} + \frac{5}{6} = \frac{4}{6} + \frac{5}{6} = \frac{9}{6} = \frac{3}{2}$$

$$2. \quad \frac{4}{5} - \frac{5}{3} = \frac{12}{15} - \frac{25}{15} = -\frac{13}{15}$$

$$3. \quad \frac{2}{7} - \frac{1}{4} = \frac{8}{28} - \frac{7}{28} = \frac{1}{28}$$

$$4. \quad -\frac{5}{6} + \frac{3}{4} = -\frac{20}{24} + \frac{18}{24} = -\frac{2}{24} = -\frac{1}{12}$$

$$5. \quad -\frac{2}{5} - \frac{3}{11} = -\frac{22}{55} - \frac{15}{55} = -\frac{37}{55}$$

$$6. \quad 3 + \frac{2}{5} = \frac{15}{5} + \frac{2}{5} = \frac{17}{5}$$

$$7. \quad 1 - \frac{5}{4} = \frac{4}{4} - \frac{5}{4} = -\frac{1}{4}$$

$$8. \quad \frac{1}{3} - 2 = \frac{1}{3} - \frac{6}{3} = -\frac{5}{3}$$

Exercise 3 :

$$1. \quad 2 \times \frac{4}{5} = \frac{2 \times 4}{5} = \frac{8}{5}$$

$$2. \quad 6 \times \frac{8}{15} = \frac{3 \times 2 \times 8}{3 \times 5} = \frac{16}{5}$$

$$3. \quad \frac{2}{3} \times \frac{5}{7} = \frac{2 \times 5}{3 \times 7} = \frac{10}{21}$$

$$4. \quad \frac{3}{4} \times \left(-\frac{7}{2}\right) = -\frac{21}{8}$$

$$5. \quad \frac{5}{6} \times \frac{3}{5} = \frac{5 \times 3}{6 \times 5} = \frac{3}{6} = \frac{1}{2}$$

$$6. \quad -\frac{5}{9} \times \frac{3}{10} = -\frac{5 \times 3}{3 \times 3 \times 2 \times 5} = -\frac{1}{6}$$

$$7. \quad \frac{8}{7} \times \frac{14}{3} = \frac{8 \times 2 \times 7}{7 \times 3} = \frac{16}{3}$$

$$8. \quad -\frac{3}{4} \times \left(-\frac{10}{9}\right) = \frac{3 \times 2 \times 5}{2 \times 2 \times 3 \times 3} = \frac{5}{6}$$

Exercise 4 :

$$1. \quad \frac{\frac{2}{5}}{\frac{7}{3}} = \frac{2}{5} \times \frac{3}{7} = \frac{6}{35}$$

$$2. \quad \frac{\frac{5}{6}}{\frac{3}{4}} = \frac{5}{6} \times \frac{4}{3} = \frac{5 \times 2 \times 2}{3 \times 2 \times 3} = \frac{10}{9}$$

$$3. \quad \frac{-\frac{3}{4}}{\frac{5}{8}} = -\frac{3}{4} \times \frac{8}{5} = -\frac{3 \times 4 \times 2}{4 \times 5} = -\frac{6}{5}$$

$$4. \quad \frac{\frac{2}{5}}{\frac{4}{4}} = 2 \times \frac{4}{5} = \frac{8}{5}$$

$$5. \quad \frac{1}{\frac{1}{4}} = 1 \times \frac{4}{1} = 4$$

$$6. \quad \frac{\frac{2}{5}}{\frac{6}{6}} = \frac{2}{5} \times \frac{1}{6} = \frac{2}{5 \times 2 \times 3} = \frac{1}{15}$$

Exercise 5 :

$$1. \quad \frac{1}{3} + \frac{3}{4} \times \frac{2}{5} = \frac{1}{3} + \frac{3}{10} = \frac{10}{30} + \frac{9}{30} = \frac{19}{30}$$

$$2. \quad \frac{5}{4} - \frac{1}{4} \times \frac{5}{2} = \frac{5}{4} - \frac{5}{8} = \frac{10}{8} - \frac{5}{8} = \frac{5}{8}$$

$$3. \quad \frac{\frac{1}{2} + \frac{4}{3}}{\frac{3}{5} - \frac{2}{7}} = \frac{\frac{3}{6} + \frac{8}{6}}{\frac{21}{35} - \frac{10}{35}} = \frac{\frac{11}{6}}{\frac{11}{35}} = \frac{11}{6} \times \frac{35}{11} = \frac{35}{6}$$

4.

$$\frac{1 + \frac{3}{5}}{4 - \frac{1}{2}} = \frac{\frac{5}{5} + \frac{3}{5}}{\frac{8}{2} - \frac{1}{2}} = \frac{\frac{8}{5}}{\frac{7}{2}} = \frac{8}{5} \times \frac{2}{7} = \frac{16}{35}$$

5.

$$\left(\frac{5}{6}\right)^2 \times \left(\frac{1}{4} + \frac{7}{8}\right) = \frac{25}{36} \times \frac{9}{8} = \frac{25 \times 3 \times 3}{3 \times 3 \times 4 \times 8} = \frac{25}{32}$$

6.

$$\left(\frac{3}{5} - \left(\frac{1}{3}\right)^2\right) \times \left(\frac{2}{9} + \frac{7}{9}\right) = \left(\frac{3}{5} - \frac{1}{9}\right) \times 1 = \frac{27}{45} - \frac{5}{45} = \frac{22}{45}$$

7.

$$\frac{\frac{1}{5} \times \frac{5}{6}}{\frac{1}{6} + \left(\frac{3}{4}\right)^2 - \frac{1}{2}} = \frac{\frac{1}{6}}{\frac{1}{6} + \frac{9}{16} - \frac{1}{2}} = \frac{\frac{1}{6}}{\frac{8}{48} + \frac{27}{48} - \frac{24}{48}} = \frac{\frac{1}{6}}{\frac{11}{48}} = \frac{1}{6} \times \frac{48}{11} = \frac{1 \times 8 \times 6}{6 \times 11} = \frac{8}{11}$$