GCSE (9–1)
MATHEMATICS

Foundation Check In – 2.01 Fractions

For questions 1-5 give your answers in their simplest form and as a mixed number where appropriate.

1. Work out $\frac{4}{7} \div \frac{5}{8}$.

2. Work out $\frac{3}{8} + \frac{11}{8}$.

3. Work out $1\frac{4}{5} \times 2\frac{2}{7}$.

4. Work out $-\frac{2}{3} + \frac{7}{8} - \frac{1}{4}$.

5. Work out $3\frac{1}{5} \times \frac{3}{8} + 2\frac{2}{3}$.

6. Explain why $\frac{8}{12} \div 2 = \frac{4}{6}$ is incorrect.

7. Marianne buys pizza for 9 people. Each person eats $\frac{4}{5}$ of a pizza. Explain why Marianne must buy 8 pizzas.

8. Explain why $\frac{7}{8} \div \frac{2}{3}$ gives an answer larger than $\frac{7}{8}$.

9. Jo’s two cats each eat $2\frac{2}{3}$ tins of cat food each week. How many tins does Jo need to buy for 4 weeks?

10. Caroline has 64 sweets. She gives $\frac{1}{4}$ to Neil, $\frac{3}{8}$ to Wim and 12 sweets to Eddie. What fraction of the sweets does she have left?

Extension

Convert the following fractions to decimals. What do you notice?

$$\frac{1}{9}, \frac{2}{9}, \frac{3}{9}, \frac{4}{9}, \frac{5}{9}, \frac{6}{9}$$

Investigate using other denominators.

Answers

1. $\frac{32}{35}$

2. $1\frac{3}{4}$

3. $4\frac{4}{35}$

4. $-\frac{1}{24}$

5. $3\frac{13}{15}$

6. It should be multiplied by $\frac{1}{2}$ to give $\frac{4}{12}=\frac{1}{3}$.

7. $\frac{4}{5}\times 9=\frac{36}{5}=7\frac{1}{5}$ so round up to 8 whole pizzas.

8. Dividing by $\frac{2}{3}$ is the same as multiplying by $\frac{3}{2}$ or $1\frac{1}{2}$.

9. $2\times 4\times 2\frac{2}{3}=\frac{64}{3}=21\frac{1}{3}$ so round up to 22 cans.

10. $64-(16+24+12)=12$, so the fraction remaining $=\frac{12}{64}=\frac{3}{16}$.

Extension

0.11… 0.22… 0.33… 0.44… 0.55… 0.66…

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Assessment Objective	Qu.	Topic	R	A	G
AO1	1	Divide simple fractions			
AO1	2	Add simple fractions (proper and improper)			
AO1	3	Multiply mixed numbers			
AO1	4	Add and subtract fractions in more complex calculations			
AO1	5	Multiply and add fractions in more complex calculations			
AO2	6	Explain the method for dividing fractions correctly			
AO2	7	Calculate a fraction of a quantity and interpret the fractional quantity in context			
AO2	8	Interpret a reciprocal or inverse operation			
AO3	9	Solve a problem involving fractional quantities			
AO3	10	Solve a contextual problem involving fractions of quantities and expressing one quantity as a fraction of another			

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