

Foundation Check In - 2.01 Fractions

1. Simplify the following fraction as fully as possible. $\frac{8}{12}$
2. Write the following mixed number as an improper fraction. $2\frac{3}{5}$
3. Calculate. $\frac{2}{5} \times \frac{3}{8}$
4. Calculate. $\frac{5}{6} - \frac{3}{4}$
5. Calculate. $\frac{2}{3} \div \frac{3}{5}$
6. Explain why the following calculation is incorrect. $\frac{3}{4} + \frac{1}{5} = \frac{4}{9}$
7. It takes $\frac{4}{5}$ of a bag of cement to produce 10 kg of concrete.
Simon wants to produce 30 kg of concrete.
Why would Simon need to buy 3 bags of cement?
8. Is $\frac{2}{5}$ of 9 the same as $\frac{9}{5}$ of 2? Explain your answer.
9. Tom's garden is 60 m². He plants vegetables in $\frac{1}{5}$ of the garden and divides the rest equally between patio and grass. How many square metres of patio does he have?
10. Kate and Helen buy a car. Kate pays £1200 and Helen pays the remaining $\frac{3}{4}$ of the total cost. How much does the car cost in total?

Extension

Using the four single digits 2, 5, 7 and 9, calculate the biggest and smallest totals for the following.

$$\frac{a}{b} + \frac{c}{d}$$

$$\frac{a}{b} - \frac{c}{d}$$

$$\frac{a}{b} \times \frac{c}{d}$$

$$\frac{a}{b} \div \frac{c}{d}$$



GCSE (9-1) MATHEMATICS

Answers

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

2. $\frac{13}{5}$

3. $\frac{3}{20}$

4. $\frac{1}{12}$

5. $\frac{10}{9}$

6. Because they have added the numerators and the denominators together.

7. 3 bags of cement are enough to make 37.5 kg however 2 bags of cement will only make 25 kg; or 30 kg requires $\frac{12}{5}$ bags of cement which is $2\frac{2}{5}$ so 3 bags required.

8. $\frac{2 \times 9}{5} = \frac{9 \times 2}{5}$

9. 24 m²

10. £4800



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Extension

$$\frac{9}{2} + \frac{7}{5} > \frac{5}{9} + \frac{2}{7}$$

$$\frac{9}{2} - \frac{5}{7} > \frac{2}{9} - \frac{7}{5}$$

$$\frac{9}{5} \times \frac{7}{2} > \frac{2}{9} \times \frac{5}{7} \quad \text{or} \quad \frac{9}{2} \times \frac{7}{5} > \frac{2}{7} \times \frac{5}{9}$$

$$\frac{9}{2} \div \frac{5}{7} > \frac{5}{9} \div \frac{7}{2} \quad \text{or} \quad \frac{9}{5} \div \frac{2}{7} > \frac{5}{7} \div \frac{9}{2} \quad \text{or} \quad \frac{7}{2} \div \frac{5}{9} > \frac{2}{9} \div \frac{7}{5} \quad \text{or} \quad \frac{7}{5} \div \frac{2}{9} > \frac{2}{7} \div \frac{9}{5}$$



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Assessment Objective	Qu.	Topic	R	A	G
AO1	1	Simplify a fraction			
AO1	2	Write a mixed number as an improper fraction			
AO1	3	Multiply fractions			
AO1	4	Subtract fractions			
AO1	5	Divide fractions			
AO2	6	Recognise that a common denominator is needed for addition			
AO2	7	Draw a conclusion from a fractional quantity calculation			
AO2	8	Multiply a fraction by an integer			
AO3	9	Solve a problem using fractions of a quantity			
AO3	10	Solve a reverse fraction problem set in context			

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