Fractions topic test

12 questions | 25 marks | 30 minutes

Equivalent fractions, mixed numbers, comparison and related-denominator calculations, building from short questions to explanations and applications.

Equivalent correct methods earn the corresponding marks.

1. Write the shaded fraction in simplest form. [1 mark]

One whole 

$\frac{2}{6} = \frac{1}{3}$.

Answer: $\frac{1}{3}$

2. Complete $\frac{3}{5} = \frac{?}{20}$. [1 mark]

Five was multiplied by four, so multiply three by four.

Answer: 12

3. Simplify $\frac{12}{18}$. [2 marks]

Divide numerator and denominator by six.

Answer: $\frac{2}{3}$

4. Write $\frac{13}{4}$ as a mixed number. [2 marks]

Thirteen divided by four is three remainder one.

Answer: $3\frac{1}{4}$

5. Write $2\frac{2}{3}$ as an improper fraction. [2 marks]

Two wholes are six thirds; add two thirds.

Answer: $\frac{8}{3}$

6. Order $\frac{5}{8}$, $\frac{1}{2}$ and $\frac{3}{4}$ from smallest to largest. [2 marks]

Write the fractions as $\frac{4}{8}$, $\frac{5}{8}$ and $\frac{6}{8}$.

Answer: $\frac{1}{2} < \frac{5}{8} < \frac{3}{4}$

7. Calculate $\frac{1}{3} + \frac{1}{6}$. [2 marks]

$\frac{1}{3} = \frac{2}{6}$; $\frac{2}{6} + \frac{1}{6} = \frac{3}{6} = \frac{1}{2}$.

Answer: $\frac{1}{2}$

8. Calculate $\frac{7}{8} - \frac{1}{4}$. [2 marks]

$\frac{1}{4} = \frac{2}{8}$; subtract to get $\frac{5}{8}$.

Answer: $\frac{5}{8}$

9. Calculate $1\frac{1}{2} + \frac{3}{4}$. [2 marks]

$1\frac{1}{2} = \frac{6}{4}$, so $\frac{6}{4} + \frac{3}{4} = \frac{9}{4} = 2\frac{1}{4}$.

Answer: $2\frac{1}{4}$

10. A family eats $\frac{2}{5}$ of a loaf in the morning and $\frac{1}{10}$ in the afternoon. What fraction of the loaf is left? [3 marks]

$\frac{2}{5} = \frac{4}{10}$. They eat $\frac{5}{10}$ altogether.

$1 - \frac{5}{10} = \frac{5}{10} = \frac{1}{2}$.

Answer: $\frac{1}{2}$

11. Tess writes $\frac{3}{4} + \frac{1}{2} = \frac{4}{6}$. Explain the error and find the correct sum. [3 marks]

Rename $\frac{1}{2}$ as $\frac{2}{4}$.

Add $\frac{3}{4} + \frac{2}{4} = \frac{5}{4}$.

Answer: The denominators were added incorrectly. The correct sum is $\frac{5}{4} = 1\frac{1}{4}$.

12. A container has $3\frac{1}{3}$ litres of water. Pour out $\frac{5}{6}$ litre. How much remains? Show how you regroup. [3 marks]

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

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

Answer: $2\frac{1}{2}$ litres