

Fractions Challenge: Amounts, Equivalence and Calculations

Find fractions of amounts, simplify, compare, add, subtract, multiply and divide fractions.

Name _____ Date _____ Class _____

Learning objective: I can find equivalent fractions and calculate with fractions.

✓ I can find a fraction of an amount ✓ I can simplify and compare fractions ✓ I can add and subtract with different denominators

1 Fractions of amounts Divide by the denominator, then multiply by the numerator.

1 $\frac{1}{4}$ of 28 =

2 $\frac{1}{3}$ of 21 =

3 $\frac{3}{5}$ of 40 =

4 $\frac{2}{3}$ of 18 =

5 $\frac{5}{8}$ of 64 =

6 $\frac{7}{10}$ of 90 =

2 Equivalent fractions Write the missing numerator.

1 $\frac{1}{2} = \frac{\boxed{}}{8}$

2 $\frac{2}{3} = \frac{\boxed{}}{12}$

3 $\frac{3}{4} = \frac{\boxed{}}{20}$

4 $\frac{4}{5} = \frac{\boxed{}}{15}$

3 Simplify Write each fraction in its simplest form.

1 $\frac{6}{8} = \boxed{}$

2 $\frac{10}{15} = \boxed{}$

3 $\frac{12}{18} = \boxed{}$

4 $\frac{9}{12} = \boxed{}$

4 Compare and order Write <, > or = in each box. Then order the four fractions, smallest first.

$\frac{3}{5}$ $\frac{2}{3}$

$\frac{7}{8}$ $\frac{3}{4}$

$\frac{1}{2}$ $\frac{1}{2}$

$\frac{3}{4}$ $\frac{5}{8}$ $\frac{1}{2}$ $\frac{7}{12}$ _____

5 Improper fractions and mixed numbers

Convert each improper fraction to a mixed number, then each mixed number to an improper fraction.

1 $\frac{7}{4} = \boxed{}$

2 $\frac{13}{5} = \boxed{}$

3 $\frac{23}{6} = \boxed{}$

4 $2\frac{1}{3} = \boxed{}$

5 $3\frac{3}{4} = \boxed{}$

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6 Add and subtract Find a common denominator where you need one. Simplify your answer.

1 $\frac{2}{7} + \frac{3}{7} =$

Answer

2 $\frac{5}{6} - \frac{1}{6} =$

Answer

3 $\frac{1}{2} + \frac{1}{4} =$

Answer

4 $\frac{2}{3} - \frac{1}{6} =$

Answer

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

Answer

6 $\frac{1}{2} - \frac{2}{5} =$

Answer

7 Multiply and divide (Year 6) Simplify your answers.

1 $\frac{1}{2} \times \frac{1}{3} =$

2 $\frac{2}{5} \times 3 =$

3 $\frac{3}{4} \times \frac{2}{3} =$

4 $\frac{1}{3} \div 2 =$

8 Problem solving Show your working.

- 1 A cake is cut into 12 equal slices. Tom eats $\frac{1}{4}$ of the cake and Sara eats $\frac{1}{3}$ of the cake. What fraction of the cake is left?

- 2 Which is greater: $\frac{3}{5}$ of 45 or $\frac{2}{3}$ of 39? Show how you know.

Answer Key

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Question	Answers
1 Fractions of amounts	1 7 ; 2 7 ; 3 24 ; 4 12 ; 5 40 ; 6 63
2 Equivalent fractions	1 4 ; 2 8 ; 3 15 ; 4 12
3 Simplify	1 $\frac{3}{4}$; 2 $\frac{2}{3}$; 3 $\frac{2}{3}$; 4 $\frac{3}{4}$
4 Compare and order	$\frac{3}{5} < \frac{2}{3}$; $\frac{7}{8} > \frac{3}{4}$; $\frac{1}{2} = \frac{1}{2}$. Order: $\frac{1}{2}$, $\frac{7}{12}$, $\frac{5}{8}$, $\frac{3}{4}$ (as 24ths: 12/24, 14/24, 15/24, 18/24)
5 Improper fractions and mixed numbers	1 $1\frac{3}{4}$; 2 $2\frac{3}{5}$; 3 $3\frac{5}{6}$; 4 $\frac{7}{3}$; 5 $\frac{15}{4}$
6 Add and subtract	1 $\frac{5}{7}$; 2 $\frac{2}{3}$; 3 $\frac{3}{4}$; 4 $\frac{1}{2}$; 5 $1\frac{5}{12}$; 6 $\frac{1}{10}$
7 Multiply and divide (Year 6)	1 $\frac{1}{6}$; 2 $1\frac{1}{5}$; 3 $\frac{1}{2}$; 4 $\frac{1}{6}$
8 Problem solving	1. $\frac{1}{4} + \frac{1}{3} = \frac{3}{12} + \frac{4}{12} = \frac{7}{12}$ eaten, so $\frac{5}{12}$ is left (5 slices). 2. $\frac{3}{5}$ of 45 = 27; $\frac{2}{3}$ of 39 = 26, so $\frac{3}{5}$ of 45 is greater.

Teaching note: page 1 covers Years 3–5 (fractions of amounts, equivalence, simplifying, comparing). Page 2 covers Years 5–6: adding and subtracting with different denominators, mixed numbers, and multiplying and dividing fractions. All answers are given in their simplest form; accept equivalent forms if the question does not ask for simplest form.