1   Your Turn! Fraction Challenge

Problem 1: Basic Fraction Identification

Represent each fraction in two different ways (draw and write):

a) $\frac{5}{8}$ c) $\frac{7}{9}$

b) $\frac{4}{10}$ d) $\frac{1}{6}$

Solution

Problem 2: Equivalent Fractions

Find two equivalent fractions for each:

a) $\frac{1}{2}$ d) $\frac{4}{5}$

b) $\frac{2}{3}$ e) $\frac{2}{6}$

c) $\frac{3}{4}$ f) $\frac{3}{8}$

Solution

Problem 3: Comparing Fractions

Use $<$, $>$, or $=$ to compare each pair:

a) $\frac{2}{3}$ --- $\frac{3}{4}$

b) $\frac{4}{5}$ --- $\frac{3}{5}$

c) $\frac{1}{2}$ --- $\frac{3}{6}$

d) $\frac{5}{8}$ --- $\frac{3}{4}$

Solution

Problem 4: Real-World Applications

Solve these real-world fraction problems:

a) Marla ate $\frac{3}{8}$ of a pizza and her brother ate $\frac{1}{4}$. Who ate more pizza?

b) A ribbon is 12 inches long. You cut off $\frac{5}{6}$ of it. How many inches do you have left?
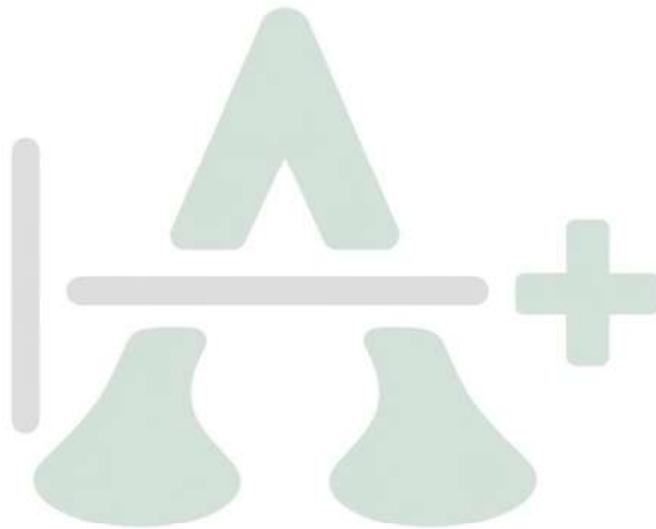
Solution

Problem 5: Advanced Fraction Challenges

Solve these advanced fraction problems:

a) Find a fraction between $\frac{2}{5}$ and $\frac{3}{5}$

b) If $\frac{2}{3} = \frac{8}{x}$, what is x?

c) Arrange in order from smallest to largest: $\frac{3}{4}, \frac{2}{3}, \frac{5}{6}, \frac{7}{12}$

d) Sam ran $\frac{3}{8}$ of a mile and then $\frac{1}{2}$ of a mile. How far did he run in total?

e) A cake was cut into 10 equal pieces. If $\frac{3}{5}$ was eaten, how many pieces remain?

f) Which is larger: $\frac{4}{7}$ or $\frac{5}{9}$? Show your work.

Solution

Problem 6: Fraction Patterns

Complete the patterns and explain the rule:

a) $\frac{1}{2}, \frac{2}{4}, \frac{3}{6}, \frac{4}{8}$, ------, ------

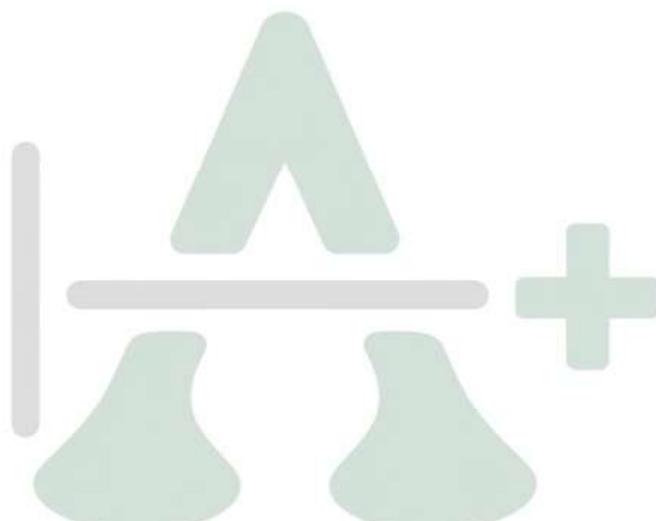b) $\frac{2}{3}, \frac{4}{6}, \frac{6}{9}, \frac{8}{12}$, ------, ------

Solution

Problem 7: Word Problems with Fractions

Solve these multi-step word problems:

a) A bottle contains $\frac{4}{5}$ liters of juice. If you pour out $\frac{1}{3}$ of the bottle, how much juice is left?

b) In a basket of 30 apples, $\frac{2}{5}$ are red and $\frac{1}{3}$ are green. The rest are yellow. How many yellow apples are there?

Solution

Problem 8: Real-World Applications

Solve these real-world fraction problems:

a) In a class of 24 students, $\frac{3}{4}$ like math. How many students like math?

b) A tank has $\frac{7}{10}$ of water. What fraction of the tank is empty?

Solution

Problem 9: Word Problems with Fractions

Solve these multi-step word problems:

a) A pizza is cut into 8 equal slices. John eats 3 slices, Maria eats 2 slices, and Tom eats 1 slice. What fraction of the pizza is left?

b) A farmer plants $\frac{3}{5}$ of his field with corn and $\frac{1}{4}$ with wheat. What fraction of the field is planted with either corn or wheat?

Solution

Problem 10: Critical Thinking Challenge

Solve these critical thinking problems:

a) If $\frac{a}{b} = \frac{3}{4}$ and $\frac{b}{c} = \frac{2}{3}$, what is $\frac{a}{c}$?

b) Find three fractions that are between $\frac{1}{3}$ and $\frac{1}{2}$

c) A fraction becomes $\frac{1}{3}$ when 1 is subtracted from the numerator and it becomes $\frac{1}{4}$ when 8 is added to the denominator. Find the original fraction.

d) Which fraction is exactly halfway between $\frac{2}{5}$ and $\frac{3}{5}$?

Solution

Key Concepts Summary

- **Fraction:** Part of a whole - numerator/denominator

- **Equivalent Fractions:** Different fractions that represent the same amount

- **Comparing Fractions:** Use common denominators or visual models

- **Proper Fraction:** Numerator ¡ Denominator

- **Unit Fraction:** Numerator = 1

- **Mixed Number:** Whole number + proper fraction

- **Improper Fraction:** Numerator $\geq$ Denominator

Remember: Fractions are everywhere in real life - cooking, measuring, sharing, and more! Practice representing fractions in multiple ways to build deep understanding.