Fractions

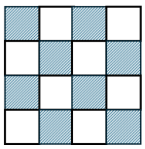
Understand the meaning of fractions

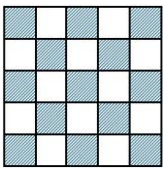
Question 1

What fraction of each shape is shaded?

a) 

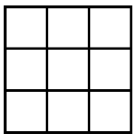
b) 

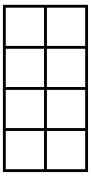
c) 

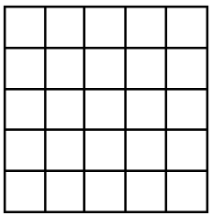
d) 

Question 2

Shade the given fraction of each shape:

a) $\frac{1}{3}$ 

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

c) $\frac{2}{5}$ 

Question 3

Simplify each fraction as far as possible.

a) $\frac{16}{24}$ b) $\frac{15}{27}$ c) $\frac{28}{35}$ d) $\frac{52}{78}$

Question 4

Complete the equivalent fractions.

a) $\frac{5}{8} = \frac{10}{\quad}$ b) $\frac{6}{8} = \frac{\quad}{20}$ c) $\frac{4}{\quad} = \frac{10}{15}$ d) $\frac{12}{16} = \frac{21}{\quad}$

Question 5

Convert these mixed numbers into improper fractions.

a) $1\frac{1}{2}$ b) $2\frac{3}{4}$ c) $4\frac{2}{5}$ d) $6\frac{7}{9}$

Question 6

Convert these improper fractions. into mixed numbers.

a) $\frac{5}{4}$ b) $\frac{7}{2}$ c) $\frac{19}{3}$ d) $\frac{54}{7}$

Question 7

Write these fractions in ascending order.

a) $\frac{5}{4}$, $\frac{2}{3}$, $\frac{7}{12}$, $\frac{5}{6}$

b) $\frac{8}{9}$, $\frac{2}{3}$, $\frac{6}{7}$, $\frac{99}{100}$, $\frac{4}{5}$

Question 8

Simplify these algebraic fractions

a) $\frac{x}{2x}$ b) $\frac{5y}{15y}$ c) $\frac{ab}{b}$ d) $\frac{2mn^2}{10mn}$

Investigation

Unit fractions have a numerator of 1. For example $\frac{1}{2}$, $\frac{1}{10}$, $\frac{1}{89}$ are all unit fractions.

Can you find three unit fractions with a sum of 1?

What about four, five six unit fractions with a sum of 1?

Investigate further.

Answers

Question 1

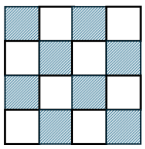
What fraction of each shape is shaded?

b) 

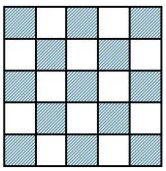
$\mathbf{\frac{1}{4}}$

b) 

$\mathbf{\frac{1}{3}}$

c) 

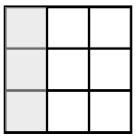
$\mathbf{\frac{1}{2}}$

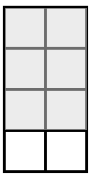
d) 

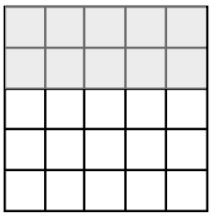
$\mathbf{\frac{13}{25}}$

Question 2

Shade the given fraction of each shape:

b) $\frac{1}{3}$ 

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

c) $\frac{2}{5}$ 

Question 3

Simplify each fraction as far as possible.

b) $\frac{16}{24} = \mathbf{\frac{2}{3}}$ b) $\frac{15}{27} = \mathbf{\frac{5}{9}}$ c) $\frac{28}{35} = \mathbf{\frac{4}{5}}$ d) $\frac{52}{78} = \mathbf{\frac{2}{3}}$

Question 4

Complete the equivalent fractions.

a) $\frac{5}{8} = \frac{10}{\mathbf{16}}$ b) $\frac{6}{8} = \frac{\mathbf{15}}{20}$ c) $\frac{\mathbf{4}}{\mathbf{6}} = \frac{10}{15}$ d) $\frac{12}{16} = \frac{21}{\mathbf{28}}$

Question 5

Convert these mixed numbers into improper fractions.

a) $1\frac{1}{2}$ $= \mathbf{\frac{3}{2}}$

b) $2\frac{3}{4}$ $= \mathbf{\frac{11}{4}}$

c) $4\frac{2}{5}$ $= \mathbf{\frac{22}{5}}$

d) $6\frac{7}{9}$ $= \mathbf{\frac{61}{9}}$

Question 6

Convert these improper fractions. into mixed numbers.

a) $\frac{5}{4}$ $= \mathbf{1\frac{1}{4}}$

b) $\frac{7}{2}$ $= \mathbf{3\frac{1}{2}}$

c) $\frac{19}{3}$ $= \mathbf{6\frac{1}{3}}$

d) $\frac{54}{7}$ $= \mathbf{7\frac{5}{7}}$

Question 7

Write these fractions in ascending order.

a) $\frac{5}{4}$, $\frac{2}{3}$, $\frac{7}{12}$, $\frac{5}{6}$ $\quad \mathbf{\frac{7}{12}}$, $\mathbf{\frac{2}{3}}$, $\mathbf{\frac{5}{6}}$, $\mathbf{\frac{5}{4}}$

b) $\frac{8}{9}$, $\frac{2}{3}$, $\frac{6}{7}$, $\frac{99}{100}$, $\frac{4}{5}$ $\quad \mathbf{\frac{2}{3}}$, $\mathbf{\frac{4}{5}}$, $\mathbf{\frac{6}{7}}$, $\mathbf{\frac{8}{9}}$, $\mathbf{\frac{99}{100}}$

Question 8

Simplify these algebraic fractions

a) $\frac{x}{2x} = \mathbf{\frac{1}{2}}$

b) $\frac{5y}{15y} = \mathbf{\frac{1}{3}}$

c) $\frac{ab}{b} = \boldsymbol{a}$

d) $\frac{2mn^2}{10mn} = \mathbf{\frac{n}{5}}$

Investigation

Unit fractions have a numerator of 1. For example $\frac{1}{2}$, $\frac{1}{10}$, $\frac{1}{89}$ are all unit fractions.

Can you find three unit fractions with a sum of 1?

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Investigate further.