

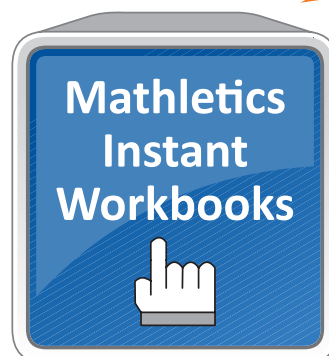
# MATHLETICS

*Inspiring Better Results*

## Fractions

Student Book - Series H-2

Simplify  
 $6\frac{1}{2} + 1\frac{2}{3}$



# Fractions

## Student Book - Series H 2

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Author of The Topics and Topic Tests: AS Kalra

# Fractions

## Topic 1: Equivalent fractions

**QUESTION 1** Complete the following to make equivalent fractions.

a  $\frac{1}{2} = \frac{3}{\quad}$

b  $\frac{1}{3} = \frac{4}{\quad}$

c  $\frac{1}{4} = \frac{5}{\quad}$

d  $\frac{1}{5} = \frac{6}{\quad}$

e  $\frac{2}{3} = \frac{6}{\quad}$

f  $\frac{2}{5} = \frac{10}{\quad}$

g  $\frac{2}{7} = \frac{8}{\quad}$

h  $\frac{2}{9} = \frac{14}{\quad}$

i  $\frac{3}{10} = \frac{9}{\quad}$

j  $\frac{3}{11} = \frac{\quad}{22}$

k  $\frac{3}{14} = \frac{\quad}{42}$

l  $\frac{3}{16} = \frac{15}{\quad}$

**QUESTION 2** Find the missing number to complete the sentence.

a  $\frac{10}{30} = \frac{\quad}{3}$

b  $\frac{12}{48} = \frac{1}{\quad}$

c  $\frac{5}{35} = \frac{1}{\quad}$

d  $\frac{8}{72} = \frac{1}{\quad}$

e  $\frac{18}{54} = \frac{1}{\quad}$

f  $\frac{12}{36} = \frac{3}{\quad}$

g  $\frac{4}{9} = \frac{28}{\quad}$

h  $\frac{3}{6} = \frac{15}{\quad}$

i  $\frac{4}{7} = \frac{36}{\quad}$

j  $\frac{2}{11} = \frac{14}{\quad}$

k  $\frac{3}{5} = \frac{27}{\quad}$

l  $\frac{4}{13} = \frac{\quad}{52}$

**QUESTION 3** Complete these equivalent fractions.

a  $\frac{2}{5} = \frac{24}{\quad}$

b  $\frac{\quad}{96} = \frac{7}{24}$

c  $\frac{3}{7} = \frac{\quad}{140}$

d  $\frac{5}{12} = \frac{\quad}{96}$

e  $\frac{2}{9} = \frac{30}{\quad}$

f  $\frac{24}{\quad} = \frac{1}{3}$

g  $\frac{5}{8} = \frac{\quad}{96}$

h  $\frac{16}{20} = \frac{4}{\quad}$

i  $\frac{3}{7} = \frac{33}{\quad}$

j  $\frac{5}{12} = \frac{\quad}{120}$

k  $\frac{2}{5} = \frac{\quad}{80}$

l  $\frac{24}{36} = \frac{2}{\quad}$

**QUESTION 4** Find the value of the letters.

a  $\frac{x}{50} = \frac{7}{10}$  \_\_\_\_\_

b  $\frac{a}{3} = \frac{9}{6}$  \_\_\_\_\_

c  $\frac{b}{7} = \frac{8}{14}$  \_\_\_\_\_

d  $\frac{c}{8} = \frac{6}{8}$  \_\_\_\_\_

e  $\frac{3}{5} = \frac{x}{25}$  \_\_\_\_\_

f  $\frac{m}{52} = \frac{8}{4}$  \_\_\_\_\_

g  $\frac{n}{9} = \frac{7}{3}$  \_\_\_\_\_

h  $\frac{p}{12} = \frac{18}{3}$  \_\_\_\_\_

i  $\frac{3}{a} = \frac{6}{18}$  \_\_\_\_\_

j  $\frac{5}{7} = \frac{a}{14}$  \_\_\_\_\_

k  $\frac{t}{9} = \frac{1}{3}$  \_\_\_\_\_

l  $\frac{y}{12} = \frac{5}{6}$  \_\_\_\_\_

m  $\frac{4}{m} = \frac{2}{5}$  \_\_\_\_\_

n  $\frac{3}{n} = \frac{6}{10}$  \_\_\_\_\_

o  $\frac{8}{a} = \frac{2}{7}$  \_\_\_\_\_

p  $\frac{p}{5} = \frac{4}{10}$  \_\_\_\_\_

# Fractions

## Topic 2: Simplifying fractions

**QUESTION 1** Write the following fractions in simplest form.

a  $\frac{8}{12} = \underline{\hspace{2cm}}$

b  $\frac{12}{64} = \underline{\hspace{2cm}}$

c  $\frac{10}{150} = \underline{\hspace{2cm}}$

d  $\frac{25}{75} = \underline{\hspace{2cm}}$

e  $\frac{25}{100} = \underline{\hspace{2cm}}$

f  $\frac{5}{40} = \underline{\hspace{2cm}}$

g  $\frac{8}{64} = \underline{\hspace{2cm}}$

h  $\frac{9}{54} = \underline{\hspace{2cm}}$

i  $\frac{52}{65} = \underline{\hspace{2cm}}$

j  $\frac{24}{72} = \underline{\hspace{2cm}}$

k  $\frac{36}{48} = \underline{\hspace{2cm}}$

l  $\frac{32}{80} = \underline{\hspace{2cm}}$

**QUESTION 2** Write in simplest form.

a  $\frac{10}{60} = \underline{\hspace{2cm}}$

b  $\frac{20}{160} = \underline{\hspace{2cm}}$

c  $\frac{30}{330} = \underline{\hspace{2cm}}$

d  $\frac{40}{480} = \underline{\hspace{2cm}}$

e  $\frac{8}{96} = \underline{\hspace{2cm}}$

f  $\frac{10}{130} = \underline{\hspace{2cm}}$

g  $\frac{12}{144} = \underline{\hspace{2cm}}$

h  $\frac{14}{112} = \underline{\hspace{2cm}}$

i  $\frac{7}{63} = \underline{\hspace{2cm}}$

j  $\frac{9}{72} = \underline{\hspace{2cm}}$

k  $\frac{11}{132} = \underline{\hspace{2cm}}$

l  $\frac{13}{104} = \underline{\hspace{2cm}}$

**QUESTION 3** Simplify the following fractions.

a  $\frac{24}{216} = \underline{\hspace{2cm}}$

b  $\frac{32}{96} = \underline{\hspace{2cm}}$

c  $\frac{48}{240} = \underline{\hspace{2cm}}$

d  $\frac{54}{324} = \underline{\hspace{2cm}}$

e  $\frac{90}{720} = \underline{\hspace{2cm}}$

f  $\frac{36}{324} = \underline{\hspace{2cm}}$

g  $\frac{42}{336} = \underline{\hspace{2cm}}$

h  $\frac{24}{120} = \underline{\hspace{2cm}}$

i  $\frac{64}{704} = \underline{\hspace{2cm}}$

j  $\frac{63}{189} = \underline{\hspace{2cm}}$

k  $\frac{81}{324} = \underline{\hspace{2cm}}$

l  $\frac{108}{324} = \underline{\hspace{2cm}}$

**QUESTION 4** Write in simplest form, leaving as mixed numbers.

a  $3\frac{8}{10} = \underline{\hspace{2cm}}$

b  $5\frac{6}{30} = \underline{\hspace{2cm}}$

c  $6\frac{5}{15} = \underline{\hspace{2cm}}$

d  $8\frac{3}{12} = \underline{\hspace{2cm}}$

e  $9\frac{4}{16} = \underline{\hspace{2cm}}$

f  $7\frac{3}{9} = \underline{\hspace{2cm}}$

g  $9\frac{14}{16} = \underline{\hspace{2cm}}$

h  $12\frac{6}{18} = \underline{\hspace{2cm}}$

i  $15\frac{8}{24} = \underline{\hspace{2cm}}$

j  $16\frac{3}{27} = \underline{\hspace{2cm}}$

k  $4\frac{12}{32} = \underline{\hspace{2cm}}$

l  $7\frac{8}{12} = \underline{\hspace{2cm}}$

m  $16\frac{4}{12} = \underline{\hspace{2cm}}$

n  $15\frac{16}{24} = \underline{\hspace{2cm}}$

o  $18\frac{3}{6} = \underline{\hspace{2cm}}$

p  $5\frac{6}{18} = \underline{\hspace{2cm}}$

# Fractions

## Topic 3: Proper fractions, improper fractions and mixed numbers

**QUESTION 1** Write whether each fraction is proper, improper or a mixed number.

- a  $2\frac{1}{3}$  \_\_\_\_\_      b  $\frac{120}{9}$  \_\_\_\_\_      c  $5\frac{1}{20}$  \_\_\_\_\_      d  $\frac{9}{10}$  \_\_\_\_\_
- e  $\frac{3}{5}$  \_\_\_\_\_      f  $\frac{5}{12}$  \_\_\_\_\_      g  $\frac{8}{9}$  \_\_\_\_\_      h  $\frac{15}{2}$  \_\_\_\_\_
- i  $\frac{8}{3}$  \_\_\_\_\_      j  $3\frac{2}{5}$  \_\_\_\_\_      k  $2\frac{15}{16}$  \_\_\_\_\_      l  $\frac{8}{8}$  \_\_\_\_\_

**QUESTION 2** Write each mixed number as an improper fraction.

- a  $2\frac{1}{5} =$  \_\_\_\_\_      b  $8\frac{1}{10} =$  \_\_\_\_\_      c  $1\frac{1}{2} =$  \_\_\_\_\_      d  $2\frac{1}{4} =$  \_\_\_\_\_
- e  $3\frac{2}{5} =$  \_\_\_\_\_      f  $9\frac{4}{7} =$  \_\_\_\_\_      g  $5\frac{9}{10} =$  \_\_\_\_\_      h  $2\frac{8}{9} =$  \_\_\_\_\_
- i  $4\frac{5}{6} =$  \_\_\_\_\_      j  $6\frac{3}{8} =$  \_\_\_\_\_      k  $6\frac{3}{5} =$  \_\_\_\_\_      l  $5\frac{7}{10} =$  \_\_\_\_\_

**QUESTION 3** Write each improper fraction as a mixed number.

- a  $\frac{24}{7} =$  \_\_\_\_\_      b  $\frac{8}{3} =$  \_\_\_\_\_      c  $\frac{19}{5} =$  \_\_\_\_\_      d  $\frac{28}{11} =$  \_\_\_\_\_
- e  $\frac{63}{10} =$  \_\_\_\_\_      f  $\frac{58}{7} =$  \_\_\_\_\_      g  $\frac{93}{15} =$  \_\_\_\_\_      h  $\frac{69}{12} =$  \_\_\_\_\_
- i  $\frac{53}{16} =$  \_\_\_\_\_      j  $\frac{88}{7} =$  \_\_\_\_\_      k  $\frac{153}{10} =$  \_\_\_\_\_      l  $\frac{98}{9} =$  \_\_\_\_\_

**QUESTION 4** Change these improper fractions to mixed numbers.

- a  $\frac{28}{5} =$  \_\_\_\_\_      b  $\frac{12}{5} =$  \_\_\_\_\_      c  $\frac{93}{16} =$  \_\_\_\_\_      d  $\frac{38}{7} =$  \_\_\_\_\_
- e  $\frac{37}{7} =$  \_\_\_\_\_      f  $\frac{64}{10} =$  \_\_\_\_\_      g  $\frac{105}{24} =$  \_\_\_\_\_      h  $\frac{46}{9} =$  \_\_\_\_\_
- i  $\frac{49}{8} =$  \_\_\_\_\_      j  $\frac{73}{9} =$  \_\_\_\_\_      k  $\frac{115}{20} =$  \_\_\_\_\_      l  $\frac{56}{10} =$  \_\_\_\_\_
- m  $\frac{53}{9} =$  \_\_\_\_\_      n  $\frac{85}{12} =$  \_\_\_\_\_      o  $\frac{140}{11} =$  \_\_\_\_\_      p  $\frac{68}{7} =$  \_\_\_\_\_

# Fractions

## Topic 4: Addition and subtraction of fractions with the same denominator

**QUESTION 1** Add or subtract the following fractions.

a  $\frac{1}{5} + \frac{2}{5} =$  \_\_\_\_\_

b  $\frac{3}{10} + \frac{4}{10} =$  \_\_\_\_\_

c  $\frac{1}{9} + \frac{3}{9} =$  \_\_\_\_\_

d  $\frac{2}{8} + \frac{1}{8} =$  \_\_\_\_\_

e  $\frac{3}{20} + \frac{4}{20} =$  \_\_\_\_\_

f  $\frac{2}{7} + \frac{1}{7} =$  \_\_\_\_\_

g  $\frac{5}{8} - \frac{2}{8} =$  \_\_\_\_\_

h  $\frac{7}{13} - \frac{2}{13} =$  \_\_\_\_\_

i  $\frac{8}{17} - \frac{5}{17} =$  \_\_\_\_\_

**QUESTION 2** Find these sums.

a  $\frac{2}{10} + \frac{5}{10} =$  \_\_\_\_\_

b  $\frac{3}{7} + \frac{1}{7} =$  \_\_\_\_\_

c  $\frac{5}{8} + \frac{3}{8} =$  \_\_\_\_\_

d  $\frac{9}{24} + \frac{2}{24} =$  \_\_\_\_\_

e  $\frac{6}{13} + \frac{1}{13} =$  \_\_\_\_\_

f  $\frac{8}{15} + \frac{2}{15} =$  \_\_\_\_\_

g  $\frac{6}{17} + \frac{5}{17} =$  \_\_\_\_\_

h  $\frac{12}{35} + \frac{12}{35} =$  \_\_\_\_\_

i  $\frac{8}{27} + \frac{2}{27} =$  \_\_\_\_\_

**QUESTION 3** Find these differences.

a  $\frac{9}{15} - \frac{7}{15} =$  \_\_\_\_\_

b  $\frac{6}{13} - \frac{2}{13} =$  \_\_\_\_\_

c  $\frac{8}{25} - \frac{6}{25} =$  \_\_\_\_\_

d  $\frac{9}{38} - \frac{5}{38} =$  \_\_\_\_\_

e  $\frac{6}{49} - \frac{3}{49} =$  \_\_\_\_\_

f  $\frac{5}{16} - \frac{3}{16} =$  \_\_\_\_\_

g  $\frac{8}{27} - \frac{7}{27} =$  \_\_\_\_\_

h  $\frac{5}{38} - \frac{3}{38} =$  \_\_\_\_\_

i  $\frac{6}{25} - \frac{3}{25} =$  \_\_\_\_\_

**QUESTION 4** Add or subtract, giving the answers in mixed numbers.

a  $\frac{45}{36} - \frac{2}{36} =$  \_\_\_\_\_

b  $\frac{8}{10} + \frac{11}{10} =$  \_\_\_\_\_

c  $\frac{3}{7} + \frac{9}{7} =$  \_\_\_\_\_

d  $\frac{5}{11} + \frac{9}{11} =$  \_\_\_\_\_

e  $\frac{8}{25} + \frac{24}{25} =$  \_\_\_\_\_

f  $\frac{23}{12} - \frac{4}{12} =$  \_\_\_\_\_

g  $\frac{49}{15} - \frac{12}{15} =$  \_\_\_\_\_

h  $\frac{19}{5} - \frac{12}{5} =$  \_\_\_\_\_

i  $\frac{16}{5} - \frac{2}{5} =$  \_\_\_\_\_

j  $\frac{28}{12} - \frac{2}{12} =$  \_\_\_\_\_

k  $\frac{361}{200} - \frac{25}{200} =$  \_\_\_\_\_

l  $\frac{27}{12} - \frac{7}{12} =$  \_\_\_\_\_

# Fractions

## Topic 5: Addition and subtraction of fractions with the different denominators

**QUESTION 1** Add or subtract the following fractions.

a  $\frac{1}{2} + \frac{1}{4} =$  \_\_\_\_\_

b  $\frac{1}{3} + \frac{1}{5} =$  \_\_\_\_\_

c  $\frac{1}{8} + \frac{1}{24} =$  \_\_\_\_\_

d  $\frac{3}{4} - \frac{1}{2} =$  \_\_\_\_\_

e  $\frac{5}{6} - \frac{2}{3} =$  \_\_\_\_\_

f  $\frac{2}{5} - \frac{1}{10} =$  \_\_\_\_\_

g  $\frac{1}{8} + \frac{1}{4} =$  \_\_\_\_\_

h  $\frac{3}{4} - \frac{1}{3} =$  \_\_\_\_\_

i  $\frac{1}{6} - \frac{1}{12} =$  \_\_\_\_\_

**QUESTION 2** Find these sums and differences.

a  $\frac{3}{8} + \frac{2}{5} =$  \_\_\_\_\_

b  $\frac{8}{15} + \frac{3}{15} =$  \_\_\_\_\_

c  $\frac{5}{9} - \frac{1}{3} =$  \_\_\_\_\_

d  $\frac{6}{7} + \frac{2}{3} =$  \_\_\_\_\_

e  $\frac{4}{15} + \frac{1}{5} =$  \_\_\_\_\_

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

g  $\frac{7}{9} + \frac{5}{7} =$  \_\_\_\_\_

h  $\frac{4}{5} + \frac{6}{7} =$  \_\_\_\_\_

i  $\frac{3}{7} + \frac{2}{9} =$  \_\_\_\_\_

**QUESTION 3** Find the value of the following.

a  $\frac{8}{15} + \frac{2}{3} =$  \_\_\_\_\_

b  $\frac{5}{6} - \frac{3}{4} =$  \_\_\_\_\_

c  $\frac{6}{7} - \frac{2}{21} =$  \_\_\_\_\_

d  $\frac{3}{20} + \frac{7}{50} =$  \_\_\_\_\_

e  $\frac{3}{25} - \frac{1}{5} =$  \_\_\_\_\_

f  $\frac{3}{8} + \frac{5}{24} =$  \_\_\_\_\_

g  $\frac{8}{12} + \frac{3}{24} =$  \_\_\_\_\_

h  $\frac{93}{100} - \frac{2}{5} =$  \_\_\_\_\_

i  $\frac{2}{3} + \frac{3}{4} =$  \_\_\_\_\_

**QUESTION 4** Evaluate the following.

a  $\frac{6}{7} - \frac{5}{6} =$  \_\_\_\_\_

b  $\frac{18}{21} - \frac{3}{7} =$  \_\_\_\_\_

c  $\frac{2}{7} + \frac{3}{14} =$  \_\_\_\_\_

d  $\frac{3}{4} - \frac{1}{8} =$  \_\_\_\_\_

e  $\frac{5}{6} - \frac{2}{18} =$  \_\_\_\_\_

f  $\frac{1}{3} - \frac{1}{7} =$  \_\_\_\_\_

g  $\frac{8}{9} - \frac{2}{3} =$  \_\_\_\_\_

h  $\frac{11}{25} + \frac{1}{5} =$  \_\_\_\_\_

i  $\frac{8}{15} - \frac{2}{5} =$  \_\_\_\_\_

j  $\frac{7}{10} - \frac{2}{5} =$  \_\_\_\_\_

k  $\frac{9}{10} - \frac{2}{5} =$  \_\_\_\_\_

l  $\frac{9}{10} - \frac{3}{5} =$  \_\_\_\_\_

# Fractions

## Topic 6: Multiplication of fractions

**QUESTION 1** Multiply the following fractions.

a  $\frac{1}{3} \times \frac{1}{3} =$  \_\_\_\_\_

b  $\frac{2}{5} \times \frac{2}{5} =$  \_\_\_\_\_

c  $\frac{3}{7} \times \frac{3}{7} =$  \_\_\_\_\_

d  $\frac{1}{5} \times \frac{1}{15} =$  \_\_\_\_\_

e  $\frac{3}{4} \times \frac{4}{5} =$  \_\_\_\_\_

f  $\frac{5}{6} \times \frac{6}{7} =$  \_\_\_\_\_

g  $\frac{1}{12} \times \frac{1}{12} =$  \_\_\_\_\_

h  $\frac{3}{25} \times \frac{1}{4} =$  \_\_\_\_\_

i  $\frac{1}{5} \times \frac{3}{7} =$  \_\_\_\_\_

**QUESTION 2** Multiply these fractions.

a  $\frac{1}{5} \times \frac{2}{9} =$  \_\_\_\_\_

b  $\frac{3}{7} \times \frac{4}{8} =$  \_\_\_\_\_

c  $\frac{5}{9} \times \frac{6}{7} =$  \_\_\_\_\_

d  $\frac{1}{3} \times \frac{5}{7} =$  \_\_\_\_\_

e  $\frac{6}{8} \times \frac{2}{3} =$  \_\_\_\_\_

f  $\frac{3}{4} \times \frac{5}{9} =$  \_\_\_\_\_

g  $\frac{9}{10} \times \frac{11}{10} =$  \_\_\_\_\_

h  $\frac{9}{11} \times \frac{10}{11} =$  \_\_\_\_\_

i  $\frac{3}{4} \times \frac{9}{11} =$  \_\_\_\_\_

**QUESTION 3** Work out the answers, as basic fractions, for the following.

a  $\frac{9}{20} \times \frac{3}{5} =$  \_\_\_\_\_

b  $\frac{2}{3} \times \frac{15}{16} =$  \_\_\_\_\_

c  $\frac{3}{4} \times \frac{9}{11} =$  \_\_\_\_\_

d  $\frac{2}{3}$  of  $\frac{8}{9} =$  \_\_\_\_\_

e  $\frac{3}{4}$  of  $\frac{16}{21} =$  \_\_\_\_\_

f  $\frac{2}{5}$  of  $\frac{25}{36} =$  \_\_\_\_\_

g  $\frac{5}{6} \times \frac{18}{20} =$  \_\_\_\_\_

h  $\frac{1}{5} \times \frac{15}{16} =$  \_\_\_\_\_

i  $\frac{3}{7} \times \frac{21}{24} =$  \_\_\_\_\_

j  $\frac{3}{10} \times \frac{20}{33} =$  \_\_\_\_\_

k  $\frac{5}{6} \times \frac{18}{19} =$  \_\_\_\_\_

l  $\frac{3}{7} \times \frac{21}{26} =$  \_\_\_\_\_

**QUESTION 4** Simplify the following.

a  $\frac{2}{3} \times 6 =$  \_\_\_\_\_

b  $\frac{4}{9} \times 27 =$  \_\_\_\_\_

c  $\frac{5}{6} \times 36 =$  \_\_\_\_\_

d  $\frac{8}{9} \times 54 =$  \_\_\_\_\_

e  $\frac{7}{10} \times 100 =$  \_\_\_\_\_

f  $\frac{5}{8} \times 72 =$  \_\_\_\_\_

g  $\frac{1}{5} \times 125 =$  \_\_\_\_\_

h  $\frac{1}{4} \times 48 =$  \_\_\_\_\_

i  $\frac{3}{7} \times 343 =$  \_\_\_\_\_

j  $\frac{4}{5} \times 200 =$  \_\_\_\_\_

k  $\frac{6}{13} \times 169 =$  \_\_\_\_\_

l  $\frac{8}{9} \times 729 =$  \_\_\_\_\_



# Fractions

## Topic 7: Division of fractions

**QUESTION 1** Divide the following fractions.

a  $\frac{2}{5} \div \frac{1}{5} =$  \_\_\_\_\_

b  $\frac{3}{7} \div \frac{3}{14} =$  \_\_\_\_\_

c  $\frac{9}{10} \div \frac{3}{10} =$  \_\_\_\_\_

d  $\frac{3}{4} \div \frac{1}{4} =$  \_\_\_\_\_

e  $\frac{8}{9} \div \frac{2}{3} =$  \_\_\_\_\_

f  $\frac{7}{8} \div \frac{3}{8} =$  \_\_\_\_\_

g  $\frac{7}{8} \div \frac{3}{4} =$  \_\_\_\_\_

h  $\frac{6}{15} \div \frac{3}{5} =$  \_\_\_\_\_

i  $\frac{21}{100} \div \frac{7}{100} =$  \_\_\_\_\_

**QUESTION 2** Find the answers to these divisions.

a  $\frac{5}{6} \div \frac{3}{12} =$  \_\_\_\_\_

b  $\frac{2}{9} \div \frac{9}{14} =$  \_\_\_\_\_

c  $\frac{9}{10} \div \frac{3}{5} =$  \_\_\_\_\_

d  $\frac{4}{5} \div \frac{3}{10} =$  \_\_\_\_\_

e  $\frac{7}{100} \div \frac{3}{20} =$  \_\_\_\_\_

f  $\frac{11}{100} \div \frac{33}{200} =$  \_\_\_\_\_

g  $\frac{8}{15} \div \frac{2}{15} =$  \_\_\_\_\_

h  $\frac{8}{27} \div \frac{4}{9} =$  \_\_\_\_\_

i  $\frac{3}{8} \div \frac{9}{4} =$  \_\_\_\_\_

**QUESTION 3** Work out the answers, as basic fractions, to the following.

a  $\frac{5}{6} \div \frac{10}{18} =$  \_\_\_\_\_

b  $\frac{7}{10} \div \frac{90}{100} =$  \_\_\_\_\_

c  $\frac{16}{27} \div \frac{8}{54} =$  \_\_\_\_\_

d  $\frac{3}{8} \div \frac{9}{16} =$  \_\_\_\_\_

e  $\frac{15}{28} \div \frac{25}{42} =$  \_\_\_\_\_

f  $\frac{18}{35} \div \frac{20}{49} =$  \_\_\_\_\_

g  $\frac{5}{9} \div \frac{10}{18} =$  \_\_\_\_\_

h  $\frac{8}{13} \div \frac{24}{39} =$  \_\_\_\_\_

i  $\frac{16}{23} \div \frac{8}{46} =$  \_\_\_\_\_

j  $\frac{8}{15} \div \frac{24}{25} =$  \_\_\_\_\_

k  $\frac{9}{25} \div \frac{18}{50} =$  \_\_\_\_\_

l  $\frac{48}{49} \div \frac{16}{7} =$  \_\_\_\_\_

**QUESTION 4** Evaluate the following.

a  $25 \div \frac{5}{9} =$  \_\_\_\_\_

b  $26 \div \frac{13}{14} =$  \_\_\_\_\_

c  $\frac{8}{36} \div 16 =$  \_\_\_\_\_

d  $18 \div \frac{9}{7} =$  \_\_\_\_\_

e  $\frac{4}{9} \div \frac{28}{27} =$  \_\_\_\_\_

f  $28 \div \frac{56}{60} =$  \_\_\_\_\_

g  $\frac{3}{4} \div \frac{12}{8} =$  \_\_\_\_\_

h  $15 \div \frac{21}{10} =$  \_\_\_\_\_

i  $96 \div \frac{16}{25} =$  \_\_\_\_\_

j  $\frac{15}{38} \div \frac{30}{19} =$  \_\_\_\_\_

k  $\frac{9}{15} \div \frac{3}{5} =$  \_\_\_\_\_

l  $\frac{9}{14} \div \frac{27}{28} =$  \_\_\_\_\_

# Fractions

## Topic 8: Finding a fraction of a number

**QUESTION 1** Work out the answers to the following.

- a  $\frac{1}{2}$  of \$50 = \_\_\_\_\_      b  $\frac{3}{5}$  of \$800 = \_\_\_\_\_      c  $\frac{1}{10}$  of 20 hours = \_\_\_\_\_
- d  $\frac{1}{3}$  of 1 hour = \_\_\_\_\_      e  $\frac{2}{5}$  of 1 tonne = \_\_\_\_\_      f  $\frac{3}{5}$  of 400 = \_\_\_\_\_
- g  $\frac{9}{10}$  of 5 hours = \_\_\_\_\_      h  $\frac{3}{5}$  of 480 = \_\_\_\_\_      i  $\frac{3}{4}$  of 1 metre = \_\_\_\_\_

**QUESTION 2** Find the following.

- a  $\frac{7}{10}$  of 300 = \_\_\_\_\_      b  $\frac{2}{5}$  of 40 = \_\_\_\_\_      c  $\frac{3}{5}$  of 80 = \_\_\_\_\_
- d  $\frac{4}{9}$  of 8100 = \_\_\_\_\_      e  $\frac{5}{12}$  of 6 weeks = \_\_\_\_\_      f  $\frac{5}{13}$  of 169 = \_\_\_\_\_
- g  $\frac{7}{8}$  of 1600 = \_\_\_\_\_      h  $\frac{8}{15}$  of \$9000 = \_\_\_\_\_      i  $\frac{1}{16}$  of 960 = \_\_\_\_\_

**QUESTION 3** Work out the following.

- a  $\frac{1}{4}$  of \$464 = \_\_\_\_\_      b  $\frac{1}{2}$  of 60 = \_\_\_\_\_      c  $\frac{1}{3}$  of 39 = \_\_\_\_\_
- d  $\frac{2}{3}$  of 525 = \_\_\_\_\_      e  $\frac{3}{4}$  of 500 = \_\_\_\_\_      f  $\frac{3}{5}$  of 625 = \_\_\_\_\_
- g  $\frac{5}{6}$  of \$216 = \_\_\_\_\_      h  $\frac{5}{8}$  of \$512 = \_\_\_\_\_      i  $\frac{9}{16}$  of 256 = \_\_\_\_\_
- j  $\frac{8}{15}$  of 360 = \_\_\_\_\_      k  $\frac{9}{100}$  of 10000 = \_\_\_\_\_      l  $\frac{5}{7}$  of 343 = \_\_\_\_\_

**QUESTION 4** Evaluate the following.

- a  $\frac{3}{4}$  of \$200 = \_\_\_\_\_      b  $\frac{3}{5}$  of 10 kg = \_\_\_\_\_      c  $\frac{1}{3}$  of 60 years = \_\_\_\_\_
- d  $\frac{2}{5}$  of 120 minutes = \_\_\_\_\_      e  $\frac{1}{8}$  of 24 hours = \_\_\_\_\_      f  $\frac{2}{3}$  of \$375 = \_\_\_\_\_
- g  $\frac{4}{7}$  of 42 weeks = \_\_\_\_\_      h  $\frac{3}{7}$  of 1540 = \_\_\_\_\_      i  $\frac{3}{5}$  of 10 metres = \_\_\_\_\_
- j  $\frac{7}{25}$  of 1 century = \_\_\_\_\_      k  $\frac{5}{8}$  of \$256 = \_\_\_\_\_      l  $\frac{5}{6}$  of 180 days = \_\_\_\_\_

# Fractions

## Topic 9: Fractions with mixed numbers

QUESTION 1 Simplify the following.

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

b  $1\frac{3}{5} + 2\frac{1}{4} =$  \_\_\_\_\_

c  $8\frac{1}{2} + 1\frac{3}{4} =$  \_\_\_\_\_

d  $5\frac{1}{10} + 2 =$  \_\_\_\_\_

e  $5\frac{1}{2} + 3\frac{1}{4} =$  \_\_\_\_\_

f  $5\frac{3}{10} + 1\frac{2}{3} =$  \_\_\_\_\_

g  $4\frac{1}{6} + 2\frac{1}{3} =$  \_\_\_\_\_

h  $8\frac{3}{4} + 1\frac{1}{5} =$  \_\_\_\_\_

i  $4\frac{8}{15} + 1\frac{2}{5} =$  \_\_\_\_\_

QUESTION 2 Work out the following.

a  $6\frac{3}{4} - 2 =$  \_\_\_\_\_

b  $8\frac{5}{6} - 4 =$  \_\_\_\_\_

c  $6\frac{7}{10} - 2\frac{2}{5} =$  \_\_\_\_\_

d  $8\frac{3}{8} - 2\frac{5}{6} =$  \_\_\_\_\_

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

f  $5\frac{7}{9} - 2\frac{2}{3} =$  \_\_\_\_\_

g  $9\frac{3}{10} - 6\frac{2}{5} =$  \_\_\_\_\_

h  $10\frac{2}{5} - 8\frac{1}{3} =$  \_\_\_\_\_

i  $5\frac{4}{5} - 2\frac{2}{3} =$  \_\_\_\_\_

QUESTION 3 Find the following.

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

b  $4\frac{1}{2} \times 5\frac{1}{3} =$  \_\_\_\_\_

c  $8\frac{1}{4} \times 2\frac{1}{2} =$  \_\_\_\_\_

d  $\frac{6}{7} \times 2\frac{2}{5} =$  \_\_\_\_\_

e  $1\frac{1}{3} \times 2\frac{3}{5} =$  \_\_\_\_\_

f  $5\frac{3}{8} \times 2\frac{1}{4} =$  \_\_\_\_\_

g  $2\frac{3}{8} \times 3\frac{1}{4} =$  \_\_\_\_\_

h  $5\frac{3}{9} \times 2\frac{1}{2} =$  \_\_\_\_\_

i  $1\frac{1}{2} \times 2\frac{1}{2} =$  \_\_\_\_\_

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

k  $2\frac{2}{3} \times 1\frac{1}{4} =$  \_\_\_\_\_

l  $5\frac{1}{2} \times 3\frac{1}{4} =$  \_\_\_\_\_

QUESTION 4 Evaluate the following.

a  $2\frac{3}{5} \div \frac{3}{4} =$  \_\_\_\_\_

b  $3\frac{1}{2} \div \frac{1}{3} =$  \_\_\_\_\_

c  $5\frac{3}{4} \div \frac{1}{5} =$  \_\_\_\_\_

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

e  $5\frac{3}{8} \div 4\frac{1}{2} =$  \_\_\_\_\_

f  $8\frac{1}{2} \div 2\frac{1}{4} =$  \_\_\_\_\_

g  $12\frac{1}{2} \div 1\frac{3}{4} =$  \_\_\_\_\_

h  $8\frac{3}{5} \div 2\frac{1}{10} =$  \_\_\_\_\_

i  $5\frac{3}{5} \div 1\frac{1}{2} =$  \_\_\_\_\_

j  $8\frac{1}{4} \div 1\frac{1}{4} =$  \_\_\_\_\_

k  $9\frac{3}{4} \div 1\frac{1}{3} =$  \_\_\_\_\_

l  $12\frac{1}{2} \div 3\frac{1}{2} =$  \_\_\_\_\_

# Fractions

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## Topic 10: Problem solving with fractions

- 1** Find the sum of  $\frac{3}{5}$ ,  $\frac{3}{8}$  and  $\frac{3}{10}$ . \_\_\_\_\_
- 2** Divide the sum of  $\frac{8}{9}$  and  $\frac{7}{10}$  by  $\frac{1}{4}$ . \_\_\_\_\_
- 3** Subtract the difference of  $\frac{1}{3}$  and  $\frac{1}{4}$  from the sum of  $\frac{1}{3}$  and  $\frac{1}{4}$ . \_\_\_\_\_
- 4** What fraction is 80 cm of 4 m? \_\_\_\_\_
- 5** How many sixths are in 5? \_\_\_\_\_
- 6** A school year consists of 40 weeks. At the end of week 32, what fraction of the school year is over?  
\_\_\_\_\_
- 7** A class has 16 girls and 12 boys. What fraction of the class is girls?  
\_\_\_\_\_
- 8** Find the difference between  $30\frac{5}{6}$  and  $8\frac{1}{2}$  and multiply this result by  $3\frac{1}{4}$ .  
\_\_\_\_\_
- 9** A square has a side of  $2\frac{3}{4}$  cm. Find its area. \_\_\_\_\_
- 10** In a school of 1200 students,  $\frac{5}{8}$  are girls. How many students are girls?  
\_\_\_\_\_
- 11** If  $\frac{3}{4}$  of a cake is shared equally among 6 people, what fraction of the cake would each receive?  
\_\_\_\_\_
- 12** A car tank when  $\frac{2}{3}$  full contains 48 litres. What is the capacity of the tank?  
\_\_\_\_\_
- 13** A rectangle has length  $3\frac{1}{2}$  cm and width  $2\frac{1}{4}$  cm. Find the perimeter of the rectangle.  
\_\_\_\_\_
- 14** An aeroplane flew 1600 km in  $2\frac{1}{4}$  hours. What was its average speed?  
\_\_\_\_\_
- 15** How many pieces of wood, each  $1\frac{1}{4}$  metres long, can be cut from a board  $12\frac{1}{2}$  metres long?  
\_\_\_\_\_

# Fractions

## Topic Test

## PART A

**Instructions** This part consists of 12 multiple-choice questions  
Each question is worth 1 mark  
Fill in only ONE CIRCLE for each question  
Calculators are NOT allowed

**Time allowed: 15 minutes**

**Total marks = 12**

					Marks
<b>1</b>	$9 + \frac{9}{10}$ equals				
	(A) $9\frac{3}{10}$	(B) $9\frac{9}{10}$	(C) $9\frac{1}{10}$	(D) $\frac{90}{10}$	1
<b>2</b>	$1 - \frac{60}{1000}$ equals				
	(A) $\frac{1060}{1000}$	(B) $\frac{900}{1000}$	(C) $\frac{47}{50}$	(D) $\frac{49}{50}$	1
<b>3</b>	$\frac{1}{9} \times \frac{1}{9}$ equals				
	(A) $\frac{1}{81}$	(B) $\frac{1}{9}$	(C) $\frac{2}{9}$	(D) none of these	1
<b>4</b>	$4\frac{1}{4} + 2\frac{1}{2}$ equals				
	(A) $5\frac{1}{4}$	(B) $6\frac{3}{4}$	(C) $5\frac{5}{8}$	(D) $7\frac{3}{4}$	1
<b>5</b>	$18 \times \frac{5}{6}$ equals				
	(A) 25	(B) 10	(C) 15	(D) $21\frac{3}{5}$	1
<b>6</b>	$\frac{4}{5} + \frac{5}{4}$ equals				
	(A) $2\frac{1}{2}$	(B) $1\frac{3}{5}$	(C) $2\frac{3}{5}$	(D) $2\frac{1}{20}$	1
<b>7</b>	$2\frac{1}{3} - 1\frac{1}{2}$ equals				
	(A) $\frac{5}{6}$	(B) $\frac{1}{6}$	(C) $1\frac{1}{6}$	(D) $1\frac{1}{3}$	1

# Fractions

## Topic Test

## PART A continued

Marks

**8**  $\frac{4}{13}$  of 26 equals

- (A) 4                      (B) 6                      (C) 8                      (D) 10

1

**9**  $4\frac{2}{5} + 1\frac{1}{4}$  equals

- (A)  $3\frac{7}{20}$                       (B)  $5\frac{13}{20}$                       (C)  $6\frac{9}{20}$                       (D)  $7\frac{11}{20}$

1

**10**  $\frac{1}{4} + \frac{1}{10}$  equals

- (A)  $\frac{3}{40}$                       (B)  $\frac{1}{20}$                       (C)  $\frac{7}{20}$                       (D)  $\frac{9}{20}$

1

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

- (A)  $\frac{3}{4}$                       (B)  $\frac{5}{4}$                       (C) 1                      (D) 2

1

**12** Which of the following numbers is the largest?

- (A)  $\frac{3}{4}$                       (B)  $\frac{4}{5}$                       (C)  $\frac{3}{7}$                       (D)  $\frac{6}{10}$

1

**13**  $\frac{3}{5}$  of a number is 6. What is the number?

- (A) 8                      (B) 10                      (C) 12                      (D) 18

1

**14**  $\frac{5}{8} \times \frac{24}{25}$  equals

- (A)  $\frac{15}{200}$                       (B)  $\frac{24}{200}$                       (C)  $\frac{2}{5}$                       (D)  $\frac{3}{5}$

1

**15**  $\frac{6}{1 - \frac{5}{6}}$  equals

- (A) 12                      (B) 18                      (C) 24                      (D) 36

1

Total marks achieved for PART A

15

# Fractions

## Topic Test

## PART B

**Instructions** This part consists of 15 questions  
Each question is worth 1 mark  
Write answers in the answers-only column

**Time allowed: 20 minutes**

**Total marks = 15**

Questions	Answers only	Marks
<b>1</b> $\frac{9}{16} = \frac{\quad}{96}$	_____	<input type="text" value="1"/>
<b>2</b> Simplify $\frac{36}{216}$	_____	<input type="text" value="1"/>
<b>3</b> Simplify $9\frac{3}{9}$ , leaving the answer as a mixed number.	_____	<input type="text" value="1"/>
<b>4</b> Write $8\frac{3}{5}$ as an improper fraction.	_____	<input type="text" value="1"/>
<b>5</b> Write $\frac{58}{7}$ as a mixed number.	_____	<input type="text" value="1"/>
<b>6</b> $\frac{7}{20} + \frac{3}{20} =$	_____	<input type="text" value="1"/>
<b>7</b> $\frac{43}{90} - \frac{12}{90} =$	_____	<input type="text" value="1"/>
<b>8</b> $\frac{5}{6} + \frac{7}{9} =$	_____	<input type="text" value="1"/>
<b>9</b> $\frac{9}{16} - \frac{1}{4} =$	_____	<input type="text" value="1"/>
<b>10</b> $\frac{8}{9} \times \frac{12}{9} =$	_____	<input type="text" value="1"/>
<b>11</b> $\frac{15}{28} \times \frac{7}{25} =$	_____	<input type="text" value="1"/>
<b>12</b> $\frac{8}{27} \div \frac{16}{36} =$	_____	<input type="text" value="1"/>
<b>13</b> $42 \div \frac{7}{9} =$	_____	<input type="text" value="1"/>
<b>14</b> $\left[ \frac{32}{45} \div \frac{16}{9} \right] \div \frac{5}{6} =$	_____	<input type="text" value="1"/>
<b>15</b> $8\frac{2}{3} \times \frac{5}{13} =$	_____	<input type="text" value="1"/>

**Total marks achieved for PART B**

# Fractions

## Topic Test

## PART C

**Instructions** This part consists of 4 questions  
Each question is worth 5 marks  
Show all necessary

**Time allowed: 20 minutes**

**Total marks = 20**

Questions	Marks
<p><b>1</b> Complete the equivalent fractions.</p> <p>a <math>\frac{5}{8} = \frac{\quad}{64}</math>                      b <math>\frac{3}{20} = \frac{9}{\quad}</math>                      c <math>\frac{4}{5} = \frac{\quad}{125}</math></p> <p>d <math>\frac{\quad}{30} = \frac{40}{150}</math>                      e <math>\frac{5}{\quad} = \frac{60}{36}</math></p>	<div style="border: 1px solid black; width: 30px; height: 30px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">5</div>
<p><b>2</b> Write the following fractions in simplest form.</p> <p>a <math>\frac{120}{340} = \frac{\quad}{\quad}</math>                      b <math>\frac{88}{121} = \frac{\quad}{\quad}</math>                      c <math>\frac{125}{625} = \frac{\quad}{\quad}</math></p> <p>d <math>\frac{70}{98} = \frac{\quad}{\quad}</math>                      e <math>\frac{85}{100} = \frac{\quad}{\quad}</math></p>	<div style="border: 1px solid black; width: 30px; height: 30px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">5</div>
<p><b>3</b> Simplify the following fractions.</p> <p>a <math>\frac{9}{44} - \frac{5}{44} = \frac{\quad}{\quad}</math>                      b <math>\frac{9}{25} + \frac{6}{125} = \frac{\quad}{\quad}</math>                      c <math>\frac{12}{45} \times \frac{4}{300} = \frac{\quad}{\quad}</math></p> <p>d <math>\frac{8}{35} \div \frac{72}{14} = \frac{\quad}{\quad}</math>                      e <math>\frac{10}{15} \times \frac{25}{200} = \frac{\quad}{\quad}</math></p>	<div style="border: 1px solid black; width: 30px; height: 30px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">5</div>
<p><b>4</b> Work out the following.</p> <p>a <math>\frac{7}{9}</math> of \$63 = <math>\frac{\quad}{\quad}</math>                      b <math>\frac{7}{50}</math> of 200 km = <math>\frac{\quad}{\quad}</math>                      c <math>8\frac{3}{4} + 9\frac{2}{5} = \frac{\quad}{\quad}</math></p> <p>d <math>3\frac{5}{6} \div 2\frac{1}{2} = \frac{\quad}{\quad}</math>                      e <math>15\frac{1}{2} - 13\frac{3}{4} = \frac{\quad}{\quad}</math></p>	<div style="border: 1px solid black; width: 30px; height: 30px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">5</div>

**Total marks achieved for PART C**

20