

Fractions Student Book - Series H

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Author of The Topics and Topic Tests: AS Kalra

Topic 1: Equivalent fractions

d $\frac{1}{10} = \frac{1}{100}$ **b** $\frac{1}{3} = \frac{1}{6}$ **a** $\frac{1}{2} = \frac{1}{4}$ **c** $\frac{1}{5} = \frac{1}{10}$ **f** $\frac{1}{5} = \frac{1}{100}$ **g** $\frac{3}{5} = \frac{3}{40}$ **e** $\frac{7}{10} = \frac{1}{50}$ **h** $\frac{3}{4} = \frac{16}{16}$ k $\frac{5}{6} = \frac{1}{24}$ i $\frac{2}{7} = \frac{21}{21}$ **j** $\frac{3}{8} = \frac{1}{64}$ $1 \quad \frac{4}{7} = \frac{35}{35}$ **m** $\frac{7}{8} = \frac{1}{24}$ **n** $\frac{2}{9} = \frac{1}{81}$ **o** $\frac{3}{4} = \frac{1}{20}$ **p** $\frac{2}{3} = \frac{8}{3}$

QUESTION 1 Complete the following to make equivalent fractions.

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

- **a** $\frac{5}{20} = \frac{4}{4}$ **b** $\frac{18}{36} = \frac{1}{20}$ **c** $\frac{8}{20} = \frac{4}{20}$ **d** $\frac{16}{20} = \frac{4}{20}$
- **e** $\frac{14}{20} = \frac{1}{10}$ **f** $\frac{1}{4} = \frac{1}{100}$ **g** $\frac{6}{14} = \frac{3}{100}$ **h** $\frac{12}{36} = \frac{1}{100}$
- **i** $\frac{5}{9} = \frac{30}{9}$ **j** $\frac{3}{8} = \frac{24}{9}$ **k** $\frac{2}{9} = \frac{30}{90}$ **l** $\frac{3}{7} = \frac{30}{9}$

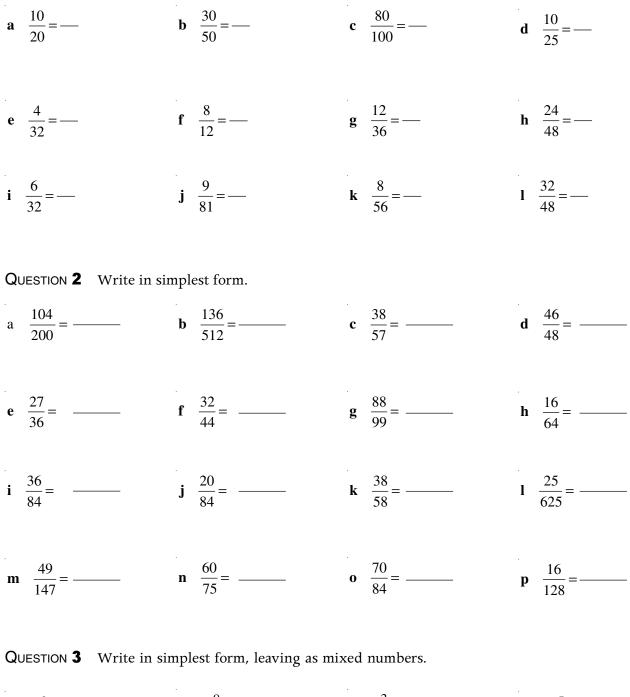
QUESTION **3** Complete these equivalent fractions.

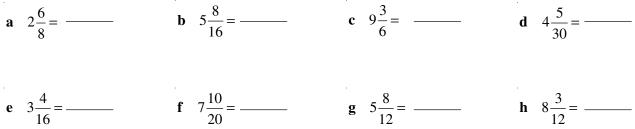
a
$$\frac{3}{4} = \frac{16}{64}$$

b $\frac{12}{96} = \frac{3}{8}$
c $\frac{7}{9} = \frac{28}{64}$
d $\frac{4}{5} = \frac{16}{250}$
d $\frac{4}{5} = \frac{16}{250}$
h $\frac{15}{20} = \frac{3}{12}$

Topic 2: Simplifying fractions

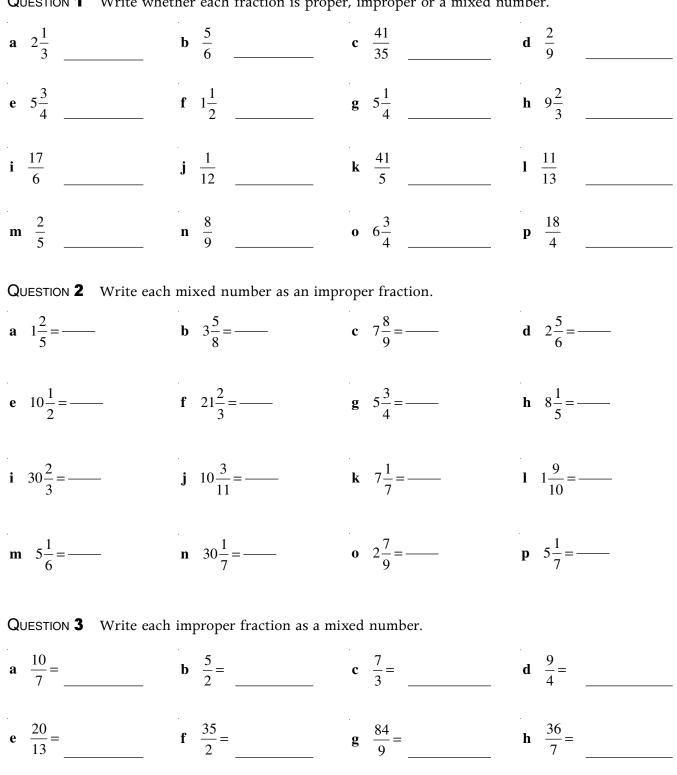
QUESTION 1 Write the following fractions in simplest form.





i $\frac{41}{8} =$

Topic 3: Proper fractions, improper fractions and mixed numbers



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

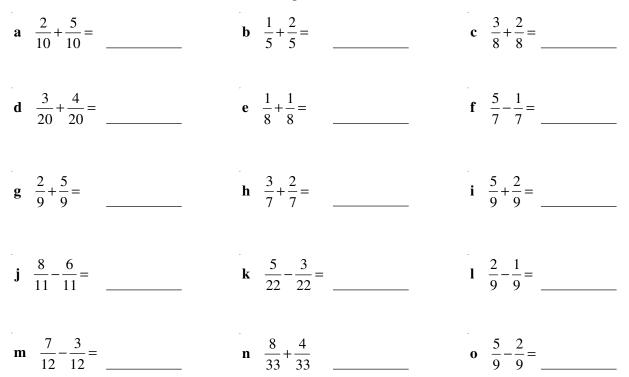
k $\frac{63}{8} =$

j $\frac{49}{5} =$

 $1 \frac{52}{7} =$

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

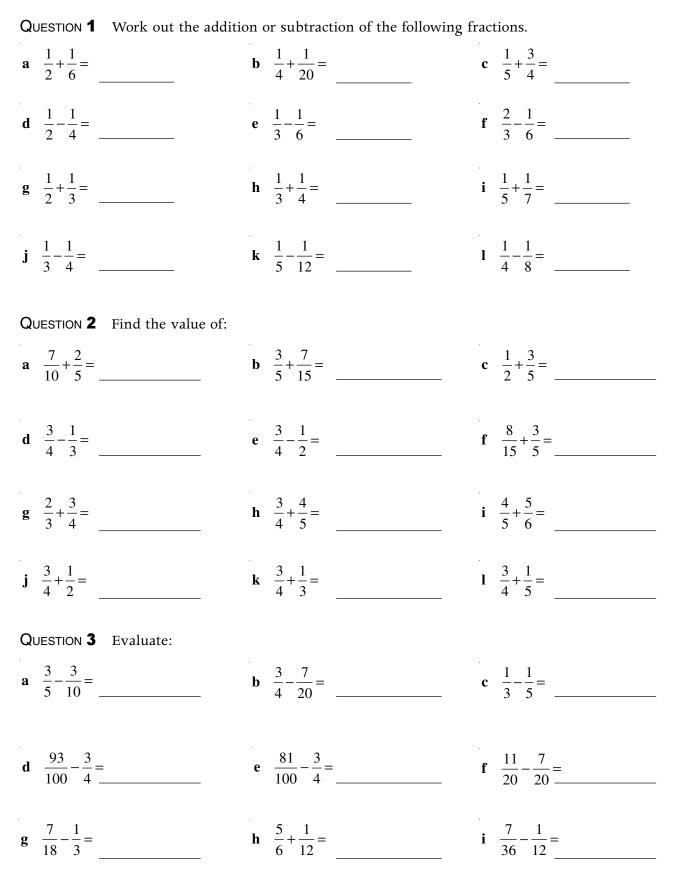
QUESTION 1 Add or subtract the following fractions.



QUESTION 2 Add or subtract the following fractions, giving answers as mixed numbers.

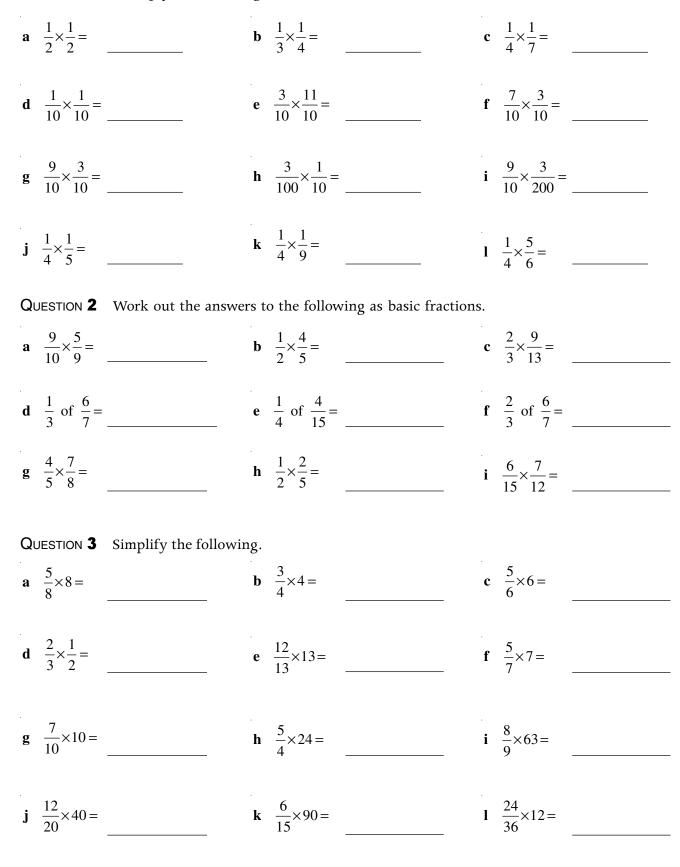
a $\frac{4}{10} + \frac{7}{10} =$	b $\frac{3}{4} + \frac{3}{4} =$	c $\frac{4}{5} + \frac{3}{5} =$
d $\frac{17}{20} + \frac{8}{20} =$	$e \frac{19}{10} - \frac{3}{10} =$	f $\frac{45}{38} - \frac{1}{38} =$
$\mathbf{g} \frac{6}{5} + \frac{8}{5} =$	h $\frac{13}{10} - \frac{2}{10} =$	$i \frac{48}{20} - \frac{21}{20} =$
$\mathbf{j} \frac{17}{3} - \frac{10}{3} =$	$\mathbf{k} \frac{15}{7} - \frac{4}{7} =$	$\mathbf{I} \frac{27}{10} - \frac{12}{10} = _$
$\mathbf{m} \frac{251}{100} - \frac{50}{100} = _$	$\mathbf{n} \frac{1361}{1000} - \frac{261}{1000} = \underline{\qquad}$	o $\frac{18}{11} - \frac{5}{11} =$

Topic 5: Addition and subtraction of fractions with different denominators

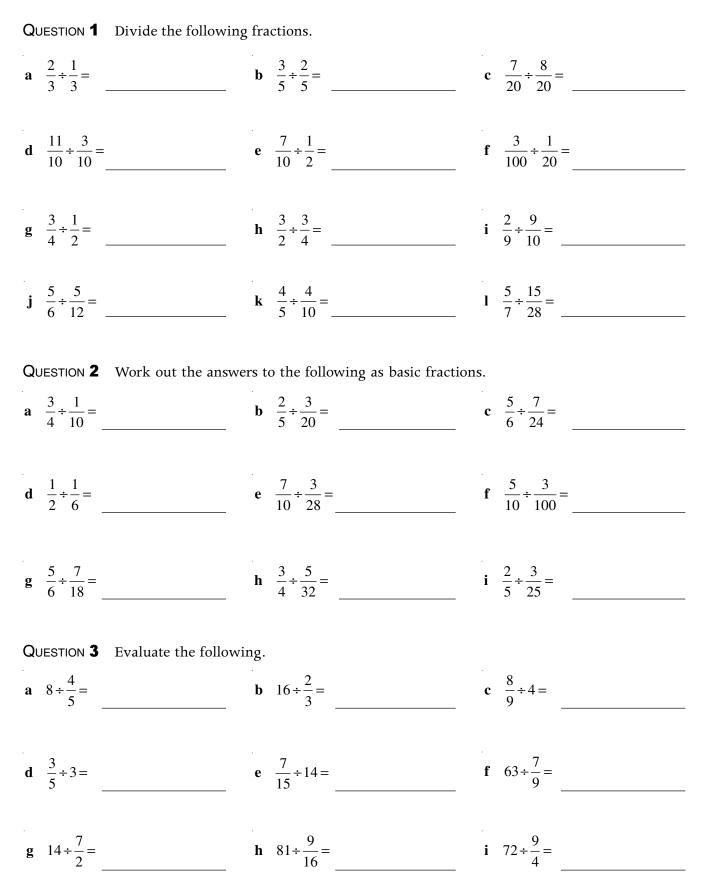


Topic 6: Multiplication of fractions

QUESTION **1** Multiply the following fractions.



Topic 7: Division of fractions

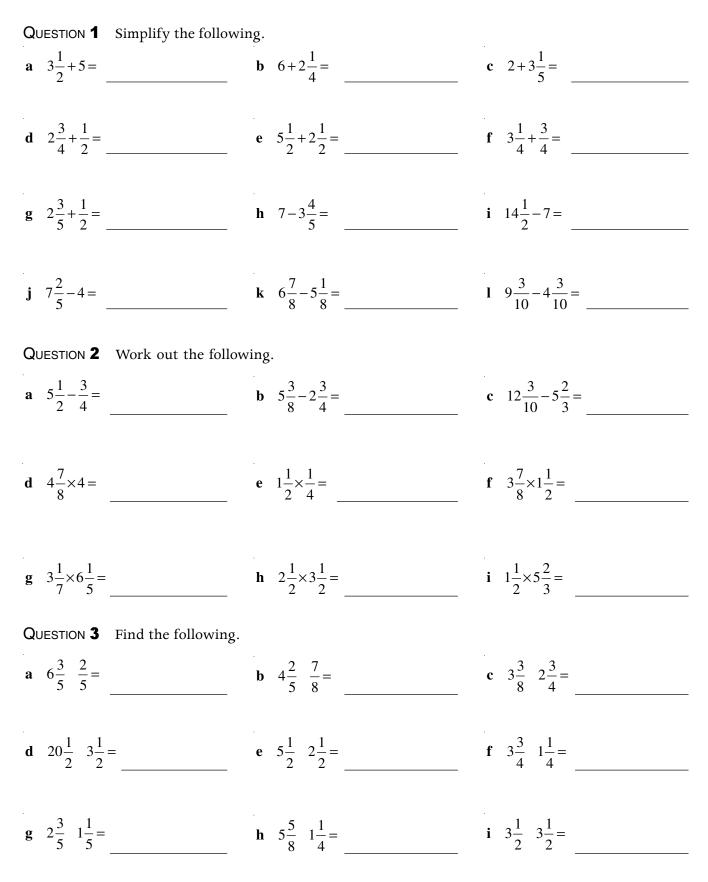


Topic 8: Finding a fraction of a number

QUESTION **1** Work out the answers to the following. c $\frac{1}{5}$ of 10 hours= **a** $\frac{1}{2}$ of \$27= **b** $\frac{3}{4}$ of \$400= **d** $\frac{2}{3}$ of 1 hour = e $\frac{3}{5}$ of 1 tonne = $f = \frac{3}{5}$ of 200 grams = i $\frac{2}{5}$ of 1 metre = $\mathbf{g} = \frac{7}{10}$ of 2 hours= **h** $\frac{2}{5}$ of 1 year = **j** $\frac{3}{5}$ of \$75 = **k** $\frac{3}{8}$ of \$64 = $1 \frac{1}{5}$ of 1kg = QUESTION **2** Find the following. **c** $\frac{4}{5}$ of \$175= **b** $\frac{1}{5}$ of 120= **a** $\frac{1}{2}$ of 62 = **d** $\frac{19}{100}$ of 700= **f** $\frac{1}{16}$ of 480= e $\frac{5}{12}$ of 120= $g = \frac{5}{16}$ of 80 = **h** $\frac{1}{8}$ of 1 day = i $\frac{1}{4}$ of 60 minutes = QUESTION **3** Work out the following. **a** $\frac{3}{4}$ of \$88= **b** $\frac{3}{5}$ of 240 = **c** $\frac{2}{7}$ of 770 = **d** $\frac{2}{5}$ of 55 = $e \frac{3}{5}$ of 600 = **f** $\frac{1}{3}$ of 270 =

g $\frac{7}{100}$ of 1 century = _____ **h** $\frac{1}{4}$ of 52 weeks = _____ **i** $\frac{2}{5}$ of 2 km = _____

Topic 9: Fractions with mixed numbers



Тор	bic 10: Problem solving with fractions
1	Find the sum of $\frac{2}{5}$, $\frac{3}{4}$ and $\frac{1}{10}$
2	Divide the sum of $\frac{7}{8}$ and $\frac{3}{10}$ by $\frac{1}{2}$
3	Subtract the difference between $\frac{1}{2}$ and $\frac{1}{3}$ from the sum of $\frac{1}{2}$ and $\frac{1}{3}$
4	In a school of 800 students, $\frac{1}{5}$ of the students have brown eyes. How many do not have brown eyes?
5	If $\frac{2}{3}$ of a cake is shared equally among four people, what fraction of the cake would each receive?
6	Find the difference between $20\frac{3}{4}$ and $9\frac{1}{2}$ and multiply this by $2\frac{1}{3}$
7	A rectangle has length $3\frac{1}{4}$ cm and width $1\frac{3}{4}$ cm. Find the perimeter of the rectangle.
8	A car tank when $\frac{3}{4}$ full contains 45 litres. What is the capacity of the tank?
9	Alka bought $3\frac{2}{5}$ kg of apples on one day and $4\frac{3}{4}$ kg the next day. How many kilograms of apples did she buy in all?
10	An aeroplane flew 1200 km in $2\frac{3}{4}$ hours. What was its average speed?
11	How many pieces of wood each $1\frac{1}{3}$ metres long can be cut from a board 8 metres long?
12	A square has side length $5\frac{3}{4}$ cm. Find its area.
	Hari works for $3\frac{1}{2}$ hours on Saturday and $5\frac{2}{5}$ hours on Sunday. Find the total number of hours he works.

Fractions Unit Test

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								
Tim	ne allowed: [,]			ii da		Total mark	(s = 12	
1	$7 + \frac{7}{10}$ equal	0						Marks
•	$(\mathbf{A}) 7\frac{3}{10}$	B	$7\frac{7}{10}$	C	$7\frac{1}{10}$	D	$\frac{107}{10}$	
2	$1 - \frac{80}{1000}$ equa (A) $\frac{1080}{1000}$	ls B	900	C	$\frac{23}{25}$	D	$\frac{24}{25}$	1
3	$\frac{1}{5} \text{ of } 35 + 16$	equals	1000		25		25	
U	(\mathbf{A}) 21	B	27	C	23	D	28	
4	$\frac{1}{2} + \frac{1}{3}$ equals							
5	$ \begin{array}{c} 2 \\ \hline \mathbf{A} \\ \frac{1}{5} \\ \hline \text{The value of} \\ \hline \mathbf{A} \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1$	\mathbf{B}	$\frac{5}{6}$	C	$\frac{1}{6}$	D	$\frac{2}{3}$	
Ð	$(A) 2\frac{1}{12}$	$\overline{2}^{+}\overline{4}^{+}\overline{6}^{-}$ IS (B)	$3\frac{5}{12}$	C	$2\frac{7}{12}$	D	$\frac{15}{24}$	
6	$\frac{3}{4} + \frac{4}{3}$ equals		12		12		24	
	$(A) \frac{25}{12}$	B	1	C	$\frac{12}{7}$	D	$\frac{7}{12}$	
7	~	a number is eq	ual to 8; t	he number is				
	(A) 16	B	24	(\mathbf{C})	12	(\mathbf{D})	40	
8	$\frac{4\times8\times15\times10}{2\times6\times5} \ e$	equals						
	A 80	B	70	C	60	D	100	
9	$\frac{5}{1-\frac{4}{5}} \text{ equals}$ $(\widehat{\mathbf{A}}) 15$							
	(A) 15	B	25	C	5	D	20	
10	Which of the	e following nur	nbers is tl	he largest?				
	$(\mathbf{A}) \frac{2}{3}$	B	$\frac{3}{5}$	C	$\frac{2}{7}$	D	$\frac{7}{10}$	
11	$\frac{3}{7} \times \frac{21}{15}$ equals				·			
	$(A) \frac{7}{105}$	B	$\frac{12}{35}$	C	$\frac{24}{105}$	D	$\frac{3}{5}$	
12	$4\frac{2}{5}+1\frac{1}{4}$ equa	ls						
	$(\widehat{\mathbf{A}}) 3\frac{7}{20}$	B	$5\frac{13}{20}$	C	$6\frac{9}{20}$	D	$7\frac{11}{20}$	

Total marks achieved for PART A

12

Fractions Unit Test Instructions This part consists of 15 gues

ructionsThis part consists of 15 questionsEach question is worth 1 markWrite answers in the answers-only column

Time allowed: 20 minutes

Total marks = 15

	Questions	Answers only	Marks
1	$\frac{7}{8} = \frac{1}{56}$		1
2	Simplify $\frac{9}{12}$		1
3	Simplify $7\frac{8}{12}$, leaving as a mixed number.		1
4	Write $4\frac{7}{9}$ as an improper fraction.		1
5	Write $\frac{37}{4}$ as a mixed number.		1
6	Add $\frac{3}{10} + \frac{4}{10}$		1
7	Subtract $\frac{39}{70} - \frac{9}{70}$		1
8	Work out $\frac{2}{3} + \frac{5}{7}$		1
9 Ev/	Find $\frac{8}{9} - \frac{1}{2}$ aluate the following:		1
10	$\frac{3}{7} \times \frac{5}{7} =$		1
	$\frac{\frac{8}{21}}{\frac{7}{16}} = \frac{1}{5}$		1
	$\frac{5}{27} \frac{4}{9} = 2$		1
	$15 \frac{2}{5} = (8 3) 4$		1
14	$ \begin{pmatrix} \frac{8}{25} & \frac{3}{5} \end{pmatrix} \frac{4}{5} = $ $ 5\frac{5}{7} \times \frac{3}{20} = $		1
13	7 20		

Total marks achieved for PART B