

L.O. To use the highest common factor to simplify fractions.

Monday

(A)

1.  $\frac{2}{12} = \frac{1}{6}$

3.  $\frac{9}{12} = \frac{3}{4}$

2.  $\frac{4}{12} = \frac{1}{3}$

4.  $\frac{6}{8} = \frac{3}{4}$

(B)

Cancel each fraction into its simplest form:

1.  $\frac{3}{12}$

5.  $\frac{12}{16}$

2.  $\frac{90}{100}$

6.  $\frac{30}{100}$

3.  $\frac{12}{18}$

7.  $\frac{20}{25}$

4.  $\frac{5}{10}$

8.  $\frac{10}{12}$

©

1. What fraction of 20 is:  
a) 8                      c) 5  
b) 14                     d) 15
2. What fraction of 1km is:  
a) 50m                    c) 25m  
b) 650m                 d) 175m
3. Julia has £48. She spends £18. What fraction of her money is left?
4. A bottle of lemonade holds 1 litre. 350ml is used. What fraction is left?
5. A bag holds 75kg of potatoes. 45kg is used. What fraction is left?

Circle the two fractions that are equivalent

Then explain how you know

$$\frac{2}{3} \quad \frac{6}{10} \quad \frac{9}{12} \quad \frac{10}{15} \quad \frac{16}{20}$$

Question 4

Look at these two rectangles

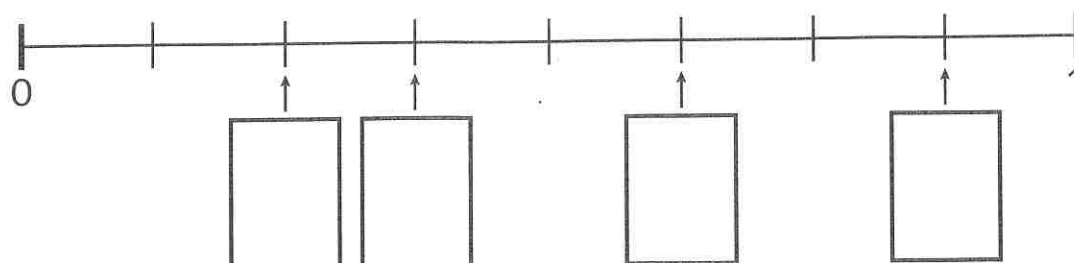


Is the same fraction of each rectangle shaded?

Explain why,

Write the fractions in the correct place on the number line.

$$\frac{7}{8} \quad \frac{3}{8} \quad \frac{2}{8} \quad \frac{5}{8}$$



Write the two missing values to make these **equivalent fractions** correct.

$$\frac{3}{\square} = \frac{12}{20} = \frac{\square}{10}$$

3. Write each decimal number as a **fraction**.

$$0.04 = \square$$

$$0.34 = \square$$

L.O. To add and subtract fractions and mixed numbers with different denominators.

Tuesday

(A)

1.  $\frac{4}{9} + \frac{1}{9} =$

4.  $\frac{1}{5} + \frac{2}{5} =$

2.  $\frac{5}{8} - \frac{3}{8} =$

5.  $\frac{99}{1000} - \frac{12}{1000} =$

3.  $\frac{7}{12} + \frac{7}{12} =$

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

(B)

1.  $\frac{1}{2} + \frac{3}{8} =$

4.  $4\frac{61}{100} - 1\frac{37}{100} =$

2.  $\frac{11}{12} - \frac{5}{6} =$

5.  $4\frac{4}{5} - 2\frac{3}{5} =$

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

6.  $6\frac{7}{12} + 3\frac{11}{12} =$

C

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

5.  $3\frac{5}{7} + 3\frac{1}{2} =$

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

6.  $4\frac{2}{3} + 7\frac{6}{11} =$

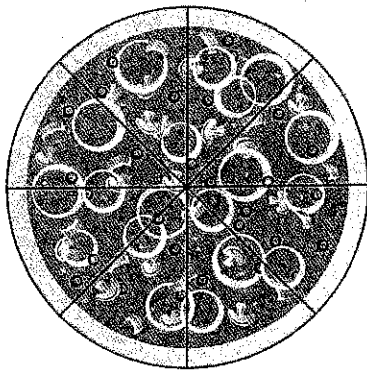
3.  $\frac{9}{10} - \frac{3}{4} =$

7.  $8\frac{2}{7} - 4\frac{4}{5} =$

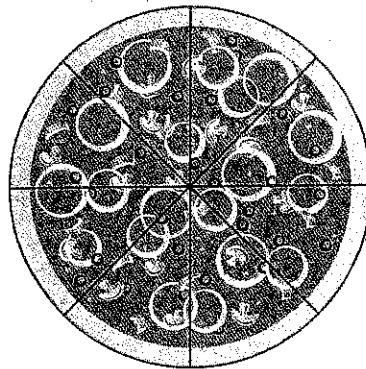
4.  $3\frac{1}{2} - 1\frac{21}{100} =$

8.  $7\frac{5}{12} - 2\frac{5}{8} =$

5. Here are two pizzas.



Pizza 1



Pizza 2

Jacob ate  $\frac{3}{8}$  of Pizza 1 and  $\frac{4}{8}$  of Pizza 2.

Write the total amount that Jacob ate as a fraction of **one whole** pizza.

L.O. To multiply pairs of fractions and fractions by whole numbers.

Wednesday

(A)

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

4.  $\frac{7}{10} \times \frac{4}{5} =$

2.  $\frac{3}{4} \times \frac{3}{8} =$

5.  $3\frac{1}{3} \times \frac{2}{5} =$

3.  $\frac{4}{5} \times \frac{3}{8} =$

6.  $6\frac{5}{12} \times \frac{8}{11} =$

(B)

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

5.  $\frac{9}{10} \times 13 =$

2.  $3 \times \frac{2}{9} =$

6.  $\frac{7}{9} \times 7 =$

3.  $4 \times \frac{3}{5} =$

7.  $6 \times \frac{11}{12} =$

4.  $6 \times \frac{7}{8} =$

8.  $5 \times \frac{5}{7} =$

©

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

5.  $9 \times 8\frac{6}{12} =$

2.  $5\frac{7}{8} \times 8 =$

6.  $3\frac{5}{6} \times 5 =$

3.  $10 \times 10\frac{3}{6} =$

7.  $7 \times 8\frac{7}{11} =$

4.  $8\frac{9}{9} \times 13 =$

8.  $6\frac{11}{20} \times 2 =$

Sameer has  $\frac{3}{4}$  of a pizza to divide equally between four people.

What fraction of a whole pizza does each person get?

In each number sentence, replace the boxes with different whole numbers less than 20 so that the number sentence is true.

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

$$\frac{\square}{\square} \times \frac{\square}{\square} = \frac{8}{15}$$

$$\frac{2}{\square} \times \frac{5}{\square} < \frac{10}{\square}$$

$$\frac{\square}{\square} \div 3 = \frac{1}{\square}$$

$$\frac{\square}{\square} \div 3 > \frac{1}{4}$$



L.O. To divide fractions by whole numbers.

Thursday

(A)

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

4.  $\frac{1}{3} \div 6 =$

2.  $\frac{1}{4} \div 5 =$

5.  $\frac{3}{4} \div 4 =$

3.  $\frac{1}{6} \div 2 =$

6.  $\frac{2}{5} \div 3 =$

(B)

Simplify before multiplying:

1.  $\frac{3}{4} \div 9 =$

5.  $\frac{5}{8} \div 11 =$

2.  $\frac{8}{9} \div 2 =$

6.  $\frac{9}{10} \div 6 =$

3.  $\frac{2}{3} \div 7 =$

7.  $\frac{4}{5} \div 12 =$

4.  $\frac{2}{9} \div 4 =$

8.  $\frac{4}{9} \div 8 =$

©

1.  $5\frac{3}{5} \div 4 =$

2.  $7\frac{1}{2} \div 5 =$

3.  $4\frac{3}{8} \div 7 =$

4.  $6\frac{2}{3} \div 8 =$

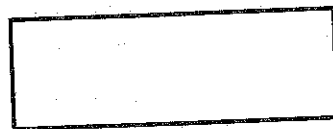
5.  $3\frac{5}{9} \div 2 =$

6.  $(\frac{1}{5} + \frac{7}{10}) \div 3 =$

### Challenge

2. 79 cakes are delivered to a school.  
They are shared equally among 100 children.

How much of a cake does each child get?  
Give your answer as a decimal number.



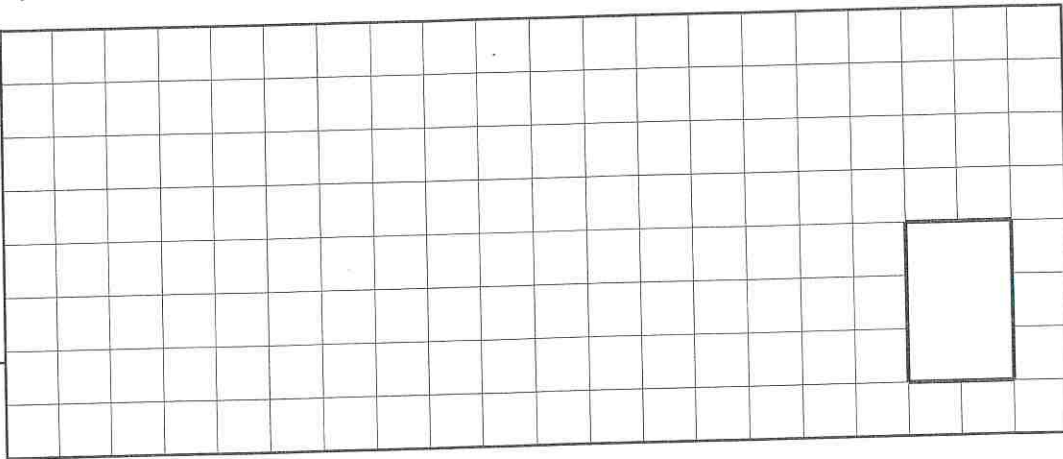
L.O. To apply my understanding of fractions to a range of questions.

Friday

5.  $\frac{3}{5}$  of the children in a class have a pet dog.  
Of the children who have a dog,  $\frac{1}{3}$  also have a pet fish.

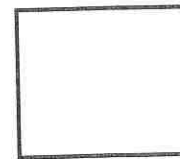
What fraction of the children in the class have a dog and a fish?  
Give your answer as a fraction in its simplest form.

Show your method



6. A restaurant has  $\frac{7}{9}$  of a jar of pizza sauce left.  
This sauce is used to cover 12 pizzas.

What fraction of a whole jar of sauce is used on each pizza?



Question 7

Sue wrote this calculation

$$\frac{1}{4} + \frac{1}{4} = \frac{2}{8}$$

Is this correct?

Explain how you know



(a) Write a decimal number that is bigger than  $3\frac{2}{3}$  but smaller than 4

(b) Write a decimal number that is bigger than 3.6 but smaller than  $3\frac{2}{3}$

3. A jug contains  $\frac{7}{9}$  of a pint of apple juice.  
 $\frac{3}{5}$  of a pint of apple juice is poured into a glass.

What fraction of a pint of apple juice is left in the jug?

Show your method

4. Sara has some beads.  
 She gives  $\frac{1}{6}$  of the beads to her friend Ella and  $\frac{3}{8}$  to her brother.

What fraction of the beads does Sara have left?

Show your method

## Question 5

Sue says that

$\frac{2}{3}$  of £15 is the same amount as  $\frac{1}{3}$  of £30



Say whether Sue is right or wrong and explain why.

## Question 6

Luke and Darren are competing in the high jump.

Luke jumps  $1\frac{1}{4}$  metres

Darren jumps 1.4 metres

Who jumps higher and by how much?

Give your answer in metres



True or false?

- The sum of two fractions is always greater than their product.
- If I divide a fraction by a whole number, the quotient is always smaller than the dividend.

Explain your reasoning.

Which is the odd one out?

$\frac{2}{5}$ , 0.4,  $\frac{4}{10}$ ,  $\frac{3}{6}$ ,  $\frac{6}{15}$

Explain your choice.

Put the following numbers into groups:

$\frac{3}{4}$ ,  $\frac{3}{2}$ , 0.5, 1.25,  $\frac{3}{8}$ , 0.125.

Explain your choices.

Sam added two fractions together and got  $\frac{7}{8}$  as the answer.  
Write down two fractions that Sam could have added.

Tom wrote down two fractions. He subtracted the smaller fraction from the larger and got  $\frac{1}{5}$  as the answer.

Write down two fractions that Tom could have subtracted.

Tom and Sam shared equally one third of a chocolate bar.

What fraction of the chocolate bar did each child get?

What's the same, and what's different about these number statements?

Double one third of 15

One third of 30

$$2 \times 5$$

$$15 \times 2 \div 3$$

$$15 \div 3 \times 2$$

$$15 \times \frac{2}{3}$$

Amira says, 'To work out a fraction of a number, you multiply the number by the numerator of the fraction and then divide the answer by the denominator of the fraction.'

Do you think that this is always, sometimes or never true?

Explain your reasoning.

On Monday I ran  $1\frac{2}{3}$  km and on Tuesday I ran  $2\frac{2}{5}$  km.  
How far did I run altogether on these two days?

On Wednesday I ran  $1\frac{2}{3}$  km and my sister ran  $2\frac{2}{5}$  km.  
How much further did my sister run than I did?

In each number sentence, replace the boxes with different whole numbers less than 20 so that the number sentence is true:

$$\frac{1}{\square} = \frac{3}{\square}$$

$$\frac{\square}{3} = \frac{\square}{12}$$

$$\frac{\square}{\square} = \frac{\square}{\square}$$

$$\square \div \square = \square \cdot \square$$

$$\frac{30}{\square} = \frac{45}{\square}$$

# Mini Murder Mystery

## Fractions, decimals & percentages

### Who

One of the 4 characters below has murdered Mrs X. Analyse the number problems to discover the murderer.

Each one has said which of the numerical statements they believe are true or false. The innocent people have only made 1 or 2 errors. The guilty person has made 3 errors.

- A) 40% of 500 is 200
- B) Half of 390 is 180
- C) 0.6 is the same as 6%
- D) 0.25 is the same as 2.5

- E)  $0.6 \times 300 = 50$
- F)  $\frac{3}{4} \times 90 = 60$
- G) Half of  $\frac{8}{10}$  is  $\frac{4}{5}$
- H) 0.085 is the same as  $8\frac{1}{2}\%$

The mad scientist said

- A is true
- C is true
- D is false
- H is true



The silly boy said

- E is true
- G is false
- B is false
- D is false



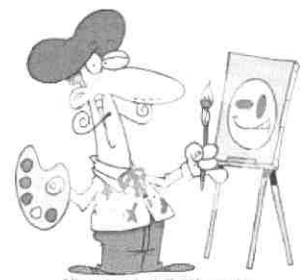
The chef said

- G is false
- C is true
- D is true
- F is true



The artist said

- D is true
- C is false
- E is true
- B is false



### Where

The murder took place where these are in ascending order

$$0.109, \frac{1}{10}, 11\%, \frac{90}{1000}, 0.099$$

Nottingham if this order is correct

$$\frac{90}{1000}, 0.099, \frac{1}{10}, 0.109, 11\%$$

Derby if this order is correct

$$0.109, 0.099, \frac{1}{10}, \frac{90}{1000}, 11\%$$

Sheffield if this order is correct

$$11\%, 0.109, \frac{1}{10}, 0.099, \frac{90}{1000}$$

Leicester if this order is correct

$$\frac{1}{10}, \frac{90}{1000}, 11\%, 0.099, 0.109$$

# Challenge



When Calculate each answer to find the time and date		
Add these fractions together  $\frac{5}{8} + 2\frac{1}{6} =$	A) $2\frac{6}{14}$ The time was 6:14 pm	B) $2\frac{19}{24}$ The time was 19:24
	C) $2\frac{6}{24}$ The time was 6:24 pm	D) $\frac{18}{14}$ The time was 8:14 pm
Subtract these fractions  $2\frac{2}{5} - \frac{7}{10} =$	A) $1\frac{1}{10}$ The date was 1/1/10	B) $1\frac{3}{10}$ The date was 1/3/10
	C) $1\frac{7}{10}$ The date was 1/7/10	D) $3\frac{7}{10}$ The date was 3/7/10

Why. Decode the message to find out why Mrs X was killed				
a	b	c	d	e
$20 \div 0.5$	$1.8 \times \frac{1}{2}$	$4.5 + 6.5$	$36 \times \frac{3}{4}$	$3 \div \frac{1}{4}$
f	g	h	i	j
$\frac{2}{5} \times 15$	$\frac{3}{10} \times 5$	$3\frac{7}{8} + 1\frac{1}{8}$	$0.95 \times 2$	Half of 66
k	l	m	n	o
$\frac{7}{12} - \frac{1}{6}$	$6 \div \frac{1}{5}$	$\frac{1}{4} \times 2 \times 2$	$0.7 \times 0.7$	$\frac{5}{8} \times 4$
p	q	r	s	t
5% of 40	26% as a decimal	15% of 50	$\frac{1}{4} \times \frac{4}{5}$	10% of 36
u	v	w	x	y or z
$3 \div \frac{3}{4}$	$1.5 \div 2$	$4 - 3\frac{3}{4}$	$\frac{3}{5}$ of 30	$1\frac{1}{2} \times 6$

$\frac{1}{5}$	5	12	27	1.9	27	0.49	3.6	30	1.9
$\frac{5}{12}$	12	6	7.5	40	11	3.6	1.9	2.5	0.49
$\frac{1}{5}$	40	0.49	27	1.9	30	2.5	0.75	12	3.6
5	12	1							

Final Accusation	
Who	
Where	
When	
Why	

