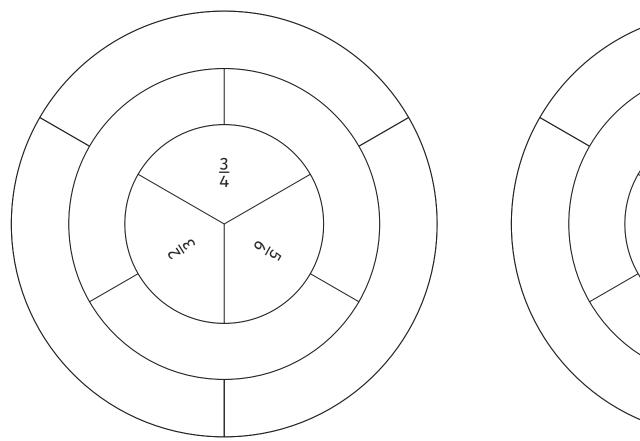
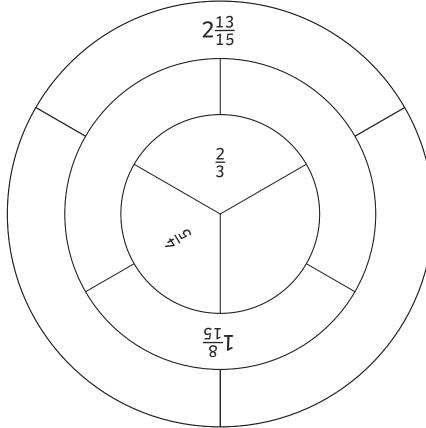
Fraction Wheels

Each section of the fraction wheel is completed by adding together the two adjacent fractions in the smaller circle.

Calculate each of the missing fractions in their simplest form. Write improper fractions as mixed numbers.

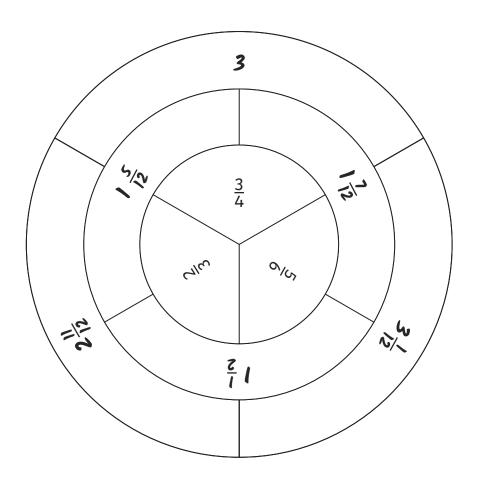


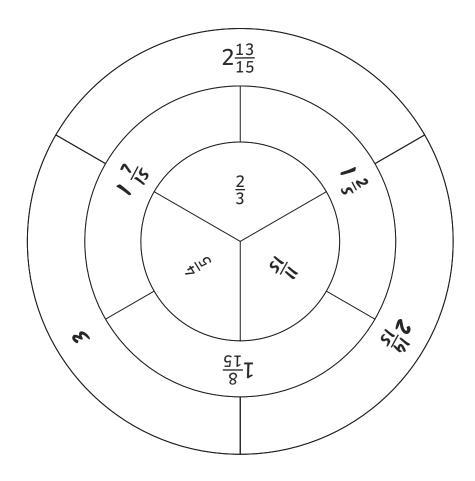






Fraction Wheels **Answers**







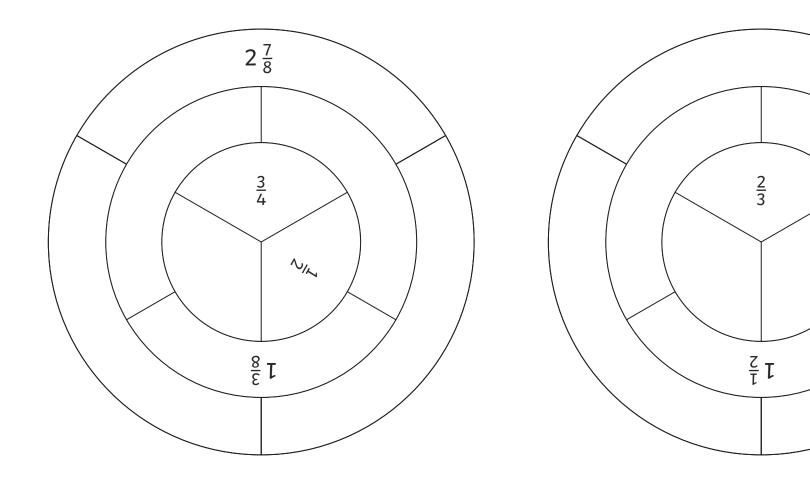




Fraction Wheels

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Calculate each of the missing fractions in their simplest form. Write improper fractions as mixed numbers.

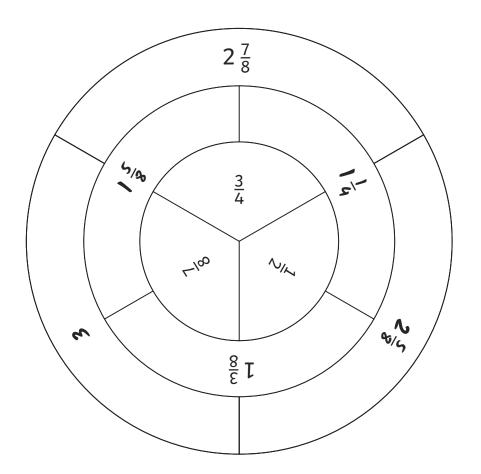


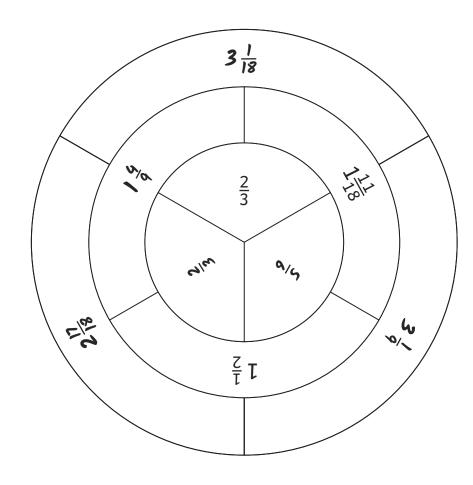






Fraction Wheels **Answers**





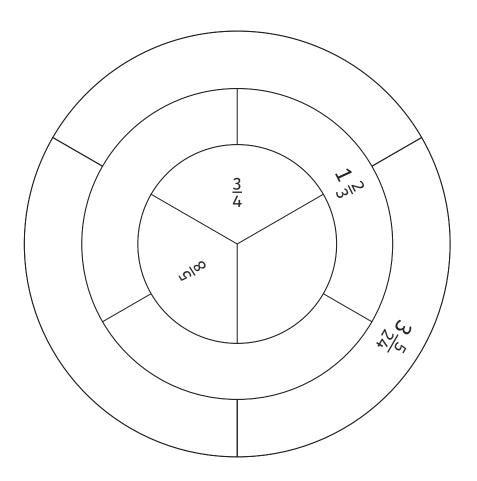


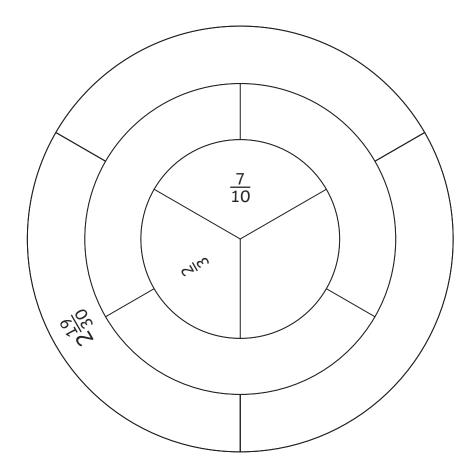


Fraction Wheels

Each section of the fraction wheel is completed by adding together the two adjacent fractions in the smaller circle.

Calculate each of the missing fractions in their simplest form. Write improper fractions as mixed numbers.

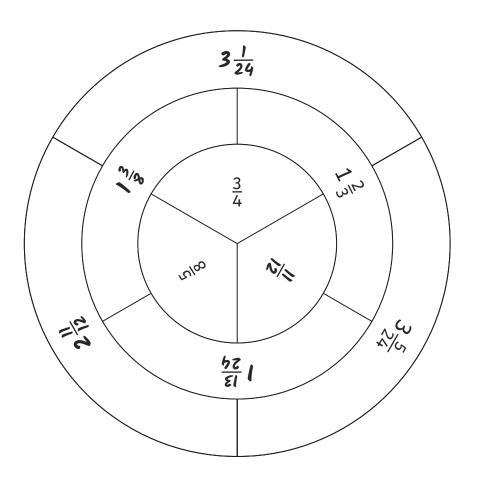


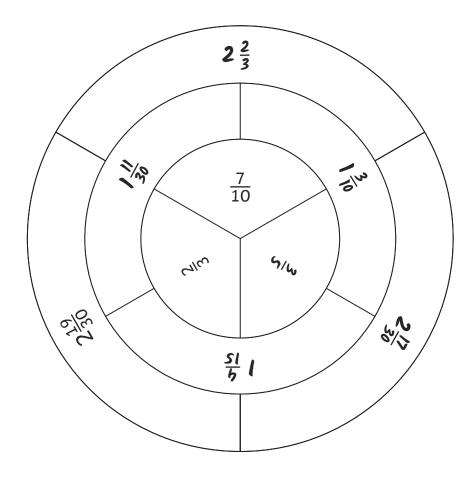






Fraction Wheels **Answers**



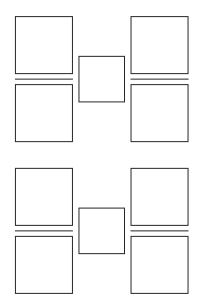


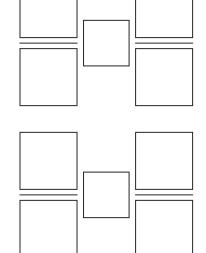
Comparing and Ordering Fractions

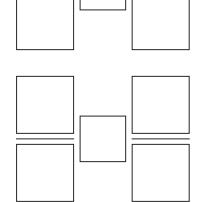
Instructions

- Roll a dice four times to generate random numerators and denominators for each fraction.
- Write <, > or = in the middle box to complete the comparison statement of the two fractions you have created.
- Use the fraction wall to help.









Fraction Wall

1									
1/2				$\frac{1}{2}$					
1/3		1 3				1 3			
1/4			1/4			1/4		1 4	
1/5		<u>1</u> 5	1 5		<u>1</u> 5		<u>1</u> 5		
1 6	16	:		1 6	<u>1</u> 6		1	1 6	1/6







Comparing and Ordering Fractions

Instructions

- Roll a dice six times to generate random numerators and denominators for each fraction (proper or improper).
- Put the three fractions in order from smallest to largest and label them S, M and L (Smallest, Middle and Largest) in the middle boxes.



- Choose two of the fractions to complete the comparison statement at the bottom.
- · Use a fraction wall to help you. The first one has been completed for you.

2	3	5				
3	4	6				
S	М	L				
3		5				
4	<	6				









Fraction Wall

				:	L				
1/2							1 2		
1/3		1 3			$\frac{1}{3}$ $\frac{1}{3}$			<u>1</u> 3	
1/4			1/4	1/4 1/4		1/4		1 4	
1 5		<u>1</u> 5	1/5		<u>1</u> 5		<u>1</u> 5		
1 6	16			16	<u>1</u> 6		= = = = = = = = = = = = = = = = = = = =	<u>L</u>	1 6





Comparing and Ordering Fractions

Instructions

- Roll a dice six times to generate random numerators and denominators for each fraction (proper or improper).
- Put the three fractions in order from smallest to largest and label them S, M and L (Smallest, Middle and Largest) in the middle boxes.



- Choose two of the fractions to complete the comparison statement.
- · Show your working out using common denominators.

Show your working out using common denominators:

Show your working out using common denominators:

Show your working out using common denominators:





Fractions

Year 6 Learning From Home





Fractions: Year 6 Learning From Home

Statutory Requirements	Worksheet	Page Number	Notes
	Simplify Fractions	4	
Use common factors to simplify fractions; use common multiples to express fractions	Simplify Fractions Using the Highest Common Factor	5	
in the same denomination.	Use Common Multiples	6	
	Express Fractions	7	
	Compare Fractions	8-9	
Compare and order fractions,	Order Fractions	10-11	
including fractions > 1.	Compare and Order Fractions	12-13	
Add and subtract fractions with different denominators	Add Fractions	14-15	
and mixed numbers, using the concept of equivalent fractions.	Subtract Fractions	16-17	
Multiply simple pairs of proper fractions, writing the answer in its simplest form (for example;: $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$)	Multiply Fractions	18-19	
Divide proper fractions by whole numbers [for example,	Divide Fractions Using a Grid	20	
$\frac{1}{3} \div 2 = \frac{1}{6}.$	Divide Fractions	21	
Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$].	Decimal Fraction Equivalents	22	



Fractions: Year 6 Learning From Home

Statutory Requirements	Worksheet	Page Number	Notes
Identify the value of each digit in numbers given to three	Identify the Value of Decimal Digits	23-26	
decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.	Multiply and Divide Decimals by 10, 100 and 1000	27-28	
Multiply one-digit numbers	Multiplying Single Digit Decimals	29	
with up to two decimal places by whole numbers.	Multiply Single Digit Decimals Word Problems	30	
Use written division methods in cases where the answer has up to two decimal places.	Written Division 2 Decimal Places	31	
Solve problems which require	Rounding to Specific Degrees of Accuracy	32-33	
answers to be rounded to specified degrees of accuracy.	Solve Problems to Specified Degree of Accuracy Word Problems	34	
Recall and use equivalences between simple fractions,	Recall and Use Equivalences Word Problems	35	
decimals and percentages, including in different contexts.	Percentage and Decimal Equivalents	36-39	





Simplifying Fractions

Using common factors, simplify the following fractions to their simplest form:

1.
$$\frac{4}{16} = -$$

2.
$$\frac{14}{21} = ---$$

3.
$$\frac{6}{15} = ---$$

4.
$$\frac{18}{34} = ---$$

5.
$$\frac{9}{12} = ---$$

6.
$$\frac{36}{45} = ---$$

7.
$$\frac{12}{20} = ---$$

8.
$$\frac{42}{64} = ----$$

9.
$$\frac{15}{24} = -$$

10.
$$\frac{15}{35} = ---$$

11.
$$\frac{14}{16} = ---$$

12.
$$\frac{3}{33} = ---$$

13.
$$\frac{9}{18} = ---$$

14.
$$\frac{9}{27} = ---$$

15.
$$\frac{15}{25} = ---$$

16.
$$\frac{18}{54} = ---$$

17.
$$\frac{6}{8} = ---$$

18.
$$\frac{42}{49} = ---$$

Simplify Fractions Using the Highest Common Factor

Simplify these fractions into the simplest form, writing the highest common factor in the table. The first one is done for you.

Fraction	Highest Common Factor	Simplified Fraction
4 12	4	1/3
<u>3</u> 9		
<u>6</u> 8		
10 15		
8 14		
10 12		
<u>6</u> 18		
<u>9</u> 18		
12 16		
6 15		
8 24		
6 21		
15 25		
12 32		
9 45		
21 28		

Fraction	Highest Common Factor	Simplified Fraction
16 20		
15 18		
18 32		
24 32		
15 35		
14 22		
<u>6</u> 27		
36 63		
15 21		
24 48		
50 75		
45 75		
24 52		
8 44		
35 49		
48 84		





Use Common Multiples

Express all the fractions in each set in fractions with the same denominator.

1.

3 4	<u>2</u> 5	1/2	1/4	7 10
20	20	20	20	20

2.

1/3	3 4	<u>1</u>	<u>5</u>	1/4
12	12	12	12	12

3.

<u>5</u> 8	3 4	1/8	1/2	1 3
_	_	_	_	_

4.

7/9	1/3	<u>5</u> 12	<u>2</u> 9	3 4
_	_	_	_	_

5.

1/12	3 10	7 8	2/3	1/4
_	_	_	_	_





Express Fractions

Express the following fractions with the same denominator.

$$\frac{3}{4}$$
 and $\frac{7}{8}$ $\frac{6}{8}$ and $\frac{7}{8}$

$$\frac{1}{6}$$
 and $\frac{7}{18}$ — and —

$$\frac{3}{5}$$
 and $\frac{11}{20}$ — and —

$$\frac{3}{8}$$
 and $\frac{17}{24}$ — and —

$$\frac{1}{2}$$
 and $\frac{13}{16}$ — and —

$$\frac{7}{12}$$
 and $\frac{5}{6}$ — and —

$$\frac{7}{15}$$
 and $\frac{4}{5}$ — and —

$$\frac{3}{16}$$
 and $\frac{3}{4}$ — and —

$$\frac{17}{20}$$
 and $\frac{7}{10}$ — and —

$$\frac{1}{8}$$
 and $\frac{7}{32}$ — and —

$$\frac{5}{12}$$
 and $\frac{19}{36}$ — and —

$$\frac{7}{10}$$
 and $\frac{23}{30}$ — and —

$$\frac{4}{21}$$
 and $\frac{2}{3}$ — and —

$$\frac{7}{24}$$
 and $\frac{1}{6}$ — and —

$$\frac{8}{27}$$
 and $\frac{4}{9}$ — and —

$$\frac{7}{28}$$
 and $\frac{3}{7}$ — and —

$$\frac{4}{11}$$
 and $\frac{5}{44}$ — and —

$$\frac{5}{8}$$
 and $\frac{1}{3}$ — and —

$$\frac{2}{5}$$
 and $\frac{1}{2}$ — and —

$$\frac{5}{6}$$
 and $\frac{3}{8}$ — and —

$$\frac{1}{2}$$
 and $\frac{1}{6}$ — and —

$$\frac{7}{12}$$
 and $\frac{5}{8}$ — and —

$$\frac{11}{15}$$
 and $\frac{3}{4}$ — and —

$$\frac{5}{12}$$
 and $\frac{3}{5}$ — and —

$$\frac{7}{8}$$
 and $\frac{1}{5}$ — and —

$$\frac{1}{7}$$
 and $\frac{3}{4}$ — and —

$$\frac{2}{9}$$
 and $\frac{11}{15}$ — and —

$$\frac{5}{6}$$
 and $\frac{10}{11}$ — and —

$$\frac{1}{2}$$
 and $\frac{13}{15}$ — and —

$$\frac{7}{9}$$
 and $\frac{5}{8}$ — and —

$$\frac{7}{12}$$
 and $\frac{4}{7}$ — and —

$$\frac{3}{15}$$
 and $\frac{7}{12}$ — and —

$$\frac{11}{20}$$
 and $\frac{2}{3}$ — and —

$$\frac{11}{15}$$
 and $\frac{7}{8}$ — and —

Compare Fractions

Use the symbols < > or = to compare these fractions.

You may need to rewrite the fractions with the same denominator.

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

$$2. \quad \frac{1}{5} \quad \boxed{\qquad } \quad \frac{3}{15}$$

$$3. \quad \frac{3}{5} \qquad \boxed{\qquad \frac{7}{10}}$$

4.
$$\frac{2}{7}$$
 $\frac{3}{8}$

6.
$$\frac{5}{3}$$
 $\frac{27}{16}$

8.
$$\frac{5}{12}$$
 $\frac{2}{5}$

9.
$$\frac{11}{15}$$
 $\frac{3}{4}$

10.
$$\frac{30}{24}$$
 $\frac{5}{4}$

Compare Fractions (2)

Use the symbols < > or = to compare these fractions.

You may need to rewrite the fractions with the same denominator.

1.
$$\frac{7}{9}$$
 $\frac{6}{7}$

2.
$$\frac{11}{8}$$
 $\frac{99}{72}$

$$3. \quad \frac{5}{6} \qquad \qquad \frac{21}{25}$$

$$6. \quad \frac{6}{17} \qquad \qquad \frac{2}{5}$$

8.
$$\frac{24}{11}$$
 $\frac{51}{23}$

10.
$$\frac{56}{63}$$
 $\frac{77}{99}$

Order Fractions

Order these fractions from smallest to largest. You may wish to write the fractions with a common denominator.

1.

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

8

8

8

8

8

smallest

— largest

2.

$$\frac{7}{12}$$

11 12 2 3

3

5

12

12

12

12

12

smallest

_ _

.

— largest

3.

 $\frac{17}{10}$

 $\frac{3}{2}$

9 5

 $\frac{13}{10}$

10

10

10

10

10

smallest

— largest

Order Fractions (2)

Order these fractions from smallest to largest. You may wish to write the fractions with a common denominator.

1.

24

24

24

24

24

smallest

— largest

2.

 $\frac{31}{12}$

12 5 8

17 6

smallest

— largest

3.

1/4

4 9

1 3

1 8

smallest

— largest

Compare and Order Fractions

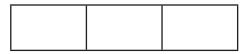
- 1. Circle the larger fraction.
- a. $\frac{5}{8}$ $\frac{7}{4}$ b. $2\frac{1}{5}$ $\frac{13}{6}$ c. $\frac{13}{8}$ $\frac{12}{7}$ d. $\frac{25}{6}$ $\frac{21}{5}$

- 2. Circle the smaller fraction.
- a. $\frac{15}{8}$ $\frac{19}{10}$ b. $\frac{8}{3}$ $2\frac{4}{5}$ c. $\frac{24}{7}$ $\frac{13}{4}$ d. $\frac{19}{6}$ $\frac{17}{5}$

- 3. Use the correct sign to compare these fractions (<, > or =)
- a. $\frac{9}{4}$ b. $2\frac{3}{7}$ b. $2\frac{1}{6}$
- c. $\frac{9}{8}$ d. $\frac{9}{6}$
- e. $\frac{17}{5}$ $3\frac{3}{10}$ f. $\frac{27}{4}$ $\frac{29}{7}$
- g. $2\frac{3}{5}$ $\frac{26}{10}$
- 4. Order the following fractions from smallest to largest.
- α.
- $\frac{3}{2}$ $\frac{5}{4}$ $\frac{4}{3}$
- smallest
- largest

- b.
- $1\frac{3}{4} \quad \frac{8}{3} \quad \frac{11}{6}$
- smallest
- largest

- $\frac{12}{5}$ $2\frac{1}{3}$ $\frac{11}{4}$



smallest

largest

- d.
- $\frac{9}{2}$ $\frac{14}{3}$ $\frac{17}{4}$



smallest

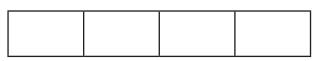
largest

e.

$$3\frac{1}{6}$$
 $\frac{15}{4}$ $\frac{7}{2}$ $\frac{17}{5}$

$$\frac{24}{10} \quad \frac{7}{3} \quad \frac{9}{4} \quad \frac{5}{2}$$

smallest largest



smallest largest

g.

$$\frac{17}{12}$$
 $\frac{27}{20}$ $\frac{3}{2}$ $\frac{7}{5}$

smallest largest h.

f.

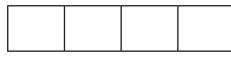
$$\frac{28}{25}$$
 $\frac{51}{50}$ $1\frac{1}{10}$ $\frac{111}{100}$

smallest largest

5. Order the following 4 fractions from smallest to largest.

α.

$$\frac{5}{3}$$
 $\frac{6}{4}$ $1\frac{2}{5}$ $\frac{11}{8}$



smallest

largest

b.

$$\frac{15}{4}$$
 $\frac{14}{5}$ $\frac{8}{3}$ $\frac{9}{6}$

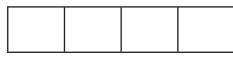


smallest

largest

C.

$$\frac{9}{5}$$
 $\frac{4}{3}$ $\frac{12}{6}$ $1\frac{1}{2}$



smallest

largest

d.

$$\frac{13}{10}$$
 $\frac{15}{12}$ $1\frac{1}{8}$ $\frac{11}{6}$



smallest largest

6. This list of numbers is in size order. Identify whether the largest number is at the beginning or at the end.

$$\frac{26}{8}$$
 $\frac{10}{3}$ $\frac{17}{5}$ $\frac{24}{7}$

7. This list of numbers is in size order from left to right. One number is in the wrong place. Circle the number that is in the wrong place.

$$\frac{19}{4}$$
 $\frac{14}{3}$ $\frac{23}{5}$ $\frac{47}{10}$ $\frac{9}{2}$

Add Fractions

Aim: to add fractions

Add the following fractions. You will need to convert the fractions so they all have the same denominator.

1.

$$\frac{3}{4}$$
 + $\frac{5}{12}$ + $\frac{1}{6}$ + $\frac{2}{3}$ =

$$\frac{2}{9}$$
 + $\frac{5}{18}$ + $\frac{2}{3}$ + $\frac{5}{6}$ =

3.

$$\frac{7}{20}$$
 + $\frac{4}{5}$ + $\frac{3}{4}$ + $\frac{6}{10}$ =

$$\overline{}$$

$$\frac{7}{24}$$
 + $\frac{7}{12}$ + $\frac{3}{8}$ + $\frac{1}{4}$

5.

Add Fractions (2)

Aim: to add fractions

Add the following fractions. You will need to convert the fractions so they all have the same denominator.

1.

$$\frac{3}{5}$$
 + $\frac{5}{8}$ + $\frac{1}{10}$ + $\frac{1}{4}$ =

$$\frac{2}{3}$$
 + $\frac{5}{9}$ + $\frac{1}{5}$ + $\frac{13}{15}$ =

$$\frac{7}{8}$$
 + $\frac{5}{6}$ + $\frac{1}{4}$ + $\frac{2}{3}$ =

$$\frac{7}{16}$$
 + $\frac{7}{12}$ + $\frac{7}{8}$ + $1\frac{1}{6}$ =

$$\frac{31}{18}$$
 + $\frac{5}{12}$ + $6\frac{1}{2}$ + $\frac{7}{9}$ = $\frac{}{}$

Subtract Fractions

Subtract the following fractions. You will need to convert the fractions so they all have the same denominator.

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

$$\frac{4}{6}$$
 - $\frac{3}{6}$ = ---

2.
$$\frac{5}{8}$$
 - $\frac{1}{2}$ = ---

$$\frac{-}{8} - \frac{-}{8} = \frac{-}{8}$$

3.
$$\frac{3}{8}$$
 - $\frac{1}{3}$ = ---

$$\frac{}{24} - \frac{}{24} = \frac{}{24}$$

4.
$$\frac{5}{6}$$
 - $\frac{1}{4}$ = ---

$$\frac{}{12} - \frac{}{12} = \frac{}{12}$$

5.
$$\frac{7}{10}$$
 - $\frac{2}{3}$ = —

$$\frac{}{30}$$
 - $\frac{}{30}$ = $\frac{}{}$

6.
$$\frac{3}{4}$$
 - $\frac{6}{10}$ = —

$$\frac{}{20}$$
 - $\frac{}{20}$ = ---

7.
$$\frac{5}{12}$$
 - $\frac{1}{4}$ = ---

8.
$$\frac{3}{8}$$
 - $\frac{1}{4}$ = ---

9.
$$\frac{11}{12} - \frac{3}{6} =$$

10.
$$\frac{2}{3}$$
 - $\frac{3}{10}$ = —

Subtract Fractions (2)

Subtract the following fractions. You will need to convert the fractions so they all have the same denominator.

1.
$$\frac{7}{8}$$
 - $\frac{1}{3}$ = ---

$$\frac{}{24}$$
 - $\frac{}{24}$ = $\frac{}{24}$

2.
$$\frac{9}{10}$$
 - $\frac{3}{4}$ = ---

$$\frac{}{20} - \frac{}{20} = \frac{}{20}$$

3.
$$\frac{2}{5}$$
 - $\frac{1}{3}$ = —

4.
$$\frac{7}{12}$$
 - $\frac{2}{5}$ = ____

$$\frac{}{60}$$
 - $\frac{}{60}$ = ---

5.
$$\frac{16}{25}$$
 - $\frac{3}{5}$ = —

6.
$$\frac{3}{4}$$
 - $\frac{5}{7}$ = —

7.
$$\frac{3}{11}$$
 - $\frac{1}{5}$ = ---

8.
$$\frac{4}{9}$$
 - $\frac{1}{4}$ = ---

9.
$$\frac{1}{6}$$
 - $\frac{1}{8}$ = —

10.
$$\frac{7}{8} - \frac{5}{6} =$$

Multiply Fractions

Calculate the following. Give your answer in the simplest form.

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

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

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

4.
$$\frac{7}{12} \times \frac{2}{3} =$$

5.
$$\frac{4}{5}$$
 × $\frac{1}{6}$ = —

6.
$$\frac{1}{4} \times \frac{5}{7} =$$

7.
$$\frac{3}{8} \times \frac{4}{5} =$$

8.
$$\frac{4}{9}$$
 × $\frac{1}{4}$ = —

9.
$$\frac{5}{6} \times \frac{3}{8} =$$

10.
$$\frac{2}{5} \times \frac{5}{9} =$$

Multiply Fractions

Cancelling Common Fractions

Calculate the following by cancelling the common factors first. Give your answer in the simplest form.

1.
$$\frac{2}{5} \times \frac{3}{8} =$$

2.
$$\frac{4}{5} \times \frac{1}{6} =$$

3.
$$\frac{1}{3}$$
 x $\frac{3}{5}$ = —

4.
$$\frac{5}{12}$$
 x $\frac{2}{3}$ = ____

5.
$$\frac{2}{5} \times \frac{1}{8} =$$

6.
$$\frac{3}{4} \times \frac{5}{9} =$$

7.
$$\frac{1}{6} \times \frac{3}{5} =$$

8.
$$\frac{4}{5}$$
 × $\frac{1}{4}$ = —

9.
$$\frac{5}{9} \times \frac{3}{10} =$$

10.
$$\frac{4}{5}$$
 × $\frac{5}{12}$ = —

Divide Fractions Using a Grid

Use the number line to divide these fractions by whole numbers.

$$1. \quad \frac{3}{4} \quad \div \quad 2 \quad = \quad$$

Shade $\frac{3}{4}$ of the grid.

Divide the number of shaded sections by the divisor. This is your answer's numerator.

Count the total number of sections in the grid; this is denominator.

So the answer to $\frac{3}{4} \div 2 =$

2.
$$\frac{1}{3}$$
 ÷ 4 =

- 6			
- 1			
- 1			
- 1			
- H			
- 1			
- 1			
- 1			

Shade $\frac{1}{3}$ of the grid.

Divide the $\frac{1}{3}$ by 4. This is the answer.

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

- [
L.					

Shade $\frac{2}{5}$ of the grid.

Divide the $\frac{2}{5}$ by 4. This is the answer.

Divide Fractions

Calculate the following. Give your answer in the simplest form.

1.
$$\frac{3}{5}$$
 ÷ 2 =

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

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

4.
$$\frac{5}{6} \div 2 =$$

5.
$$\frac{5}{8}$$
 ÷ 4 =

$$6. \quad \frac{1}{4} \quad \div \quad 7 \quad = \quad$$

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

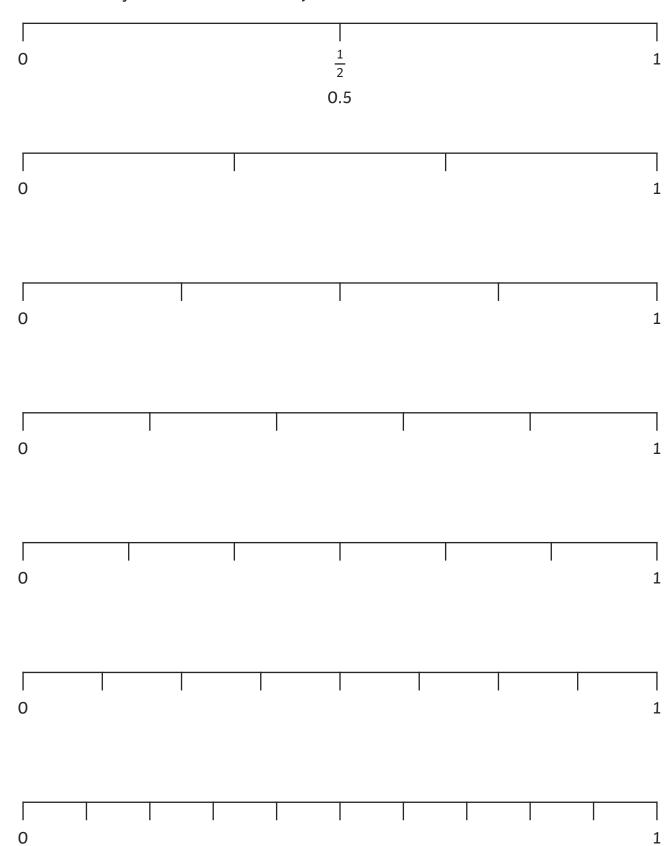
8.
$$\frac{7}{9} \div 5 =$$

9.
$$\frac{5}{12} \div 6 =$$

10.
$$\frac{2}{5}$$
 ÷ 4 =

Decimal Fraction Equivalents

Write the relevant fraction and decimal equivalents on the number lines:





Recognising the value of digits in numbers up to 2 decimal places.

0.14	0.4	0.56	0.63	0.41	0.42	0.36	0.87
0.24	0.08	0.13	0.51	0.96	0.73	0.59	0.86
0.77	0.1	0.12	0.6	0.17	0.74	0.29	0.34
0.67	0.01	0.22	0.69	0.55	0.61	0.26	0.33
0.28	0.79	0.03	0.54	0.61	0.09	0.66	0.5
0.07	0.52	0.19	0.72	0.56	0.42	0.78	0.05

1. Find all the numbers above that have the following:

7 in the tenths place	
4 in the hundredths place	
1 in the tenths place	
3 in the hundredths place	
5 in the tenths place	
9 in the hundredths place	
2 in the tenths place and	
6 in the hundredth place	

2. Complete this Venn diagram with these numbers.

0.47 0.37 0.12 0.53 0.87 0.41 0.79 0.42 0.19

4 in the tenths place.

7 in the hundredths place.



Complete the Carroll Diagram from these numbers.

0.43	0.33	0.98	0.99	0.69	0.89	0.07	0.97
0.81	0.96	0.91	0.93	0.19	0.36	0.16	0.56
0.22	0.52	0.31	0.24	0.15	0.85	0.25	0.62

	9 in the hundredths place	not 9 in the hundredths place
8 in the tenths place		
not 8 in the tenths place		





Recognising the value of digits in numbers up to 3 decimal places.

0.28	0.6	0.62	0.772	0.989	0.095	0.139	0.774
0.453	0.223	0.919	0.397	0.343	0.005	0.107	0.216
0.54	0.694	0.716	0.27	0.564	0.539	0.805	0.229
0.635	0.61	0.316	0.169	0.416	0.614	0.873	0.655
0.82	0.822	0.786	0.601	0.916	0.428	0.189	0.874
0.449	0.746	0.636	0.774	0.663	0.666	0.525	0.991
0.65	0.485	0.015	0.969	0.083	0.063	0.558	0.005
0.639	0.053	0.169	0.766	0.148	0.5	0.74	0.129
0.288	0.818	0.859	0.792	0.299	0.852	0.213	0.984
0.915	0.378	0.303	0.167	0.364	0.552	0.557	0.838
0.775	0.223	0.205	0.572	0.376	0.736	0.01	0.503
0.047	0.732	0.592	0.907	0.643	0.987	0.423	0.048

Find all the numbers above that have the following:

5 in the tenths place	
2 in the hundredths place	
1 in the thousandths place	
8 in the tenths place	
4 in the hundredths place	
9 in the thousandths place	
7 in the tenths place and 3 in the hundredths place	
3 in the hundredths place and 2 in the thousandths place	
2 in the tenths place and 9 in the thousandths place	
1 in the tenths place, 4 in the hundredths place and 8 in the thousandths place	

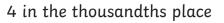




Place the following numbers in the Venn diagram. Not all numbers will fit.

0.529	0.651	0.8	0.646	0.099	0.062	0.549	0.898
0.983	0.32	0.019	0.305	0.804	0.101	0.377	0.388
0.663	0.207	0.797	0.532	0.24	0.596	0.332	0.376
0.018	0.848	0.08	0.486	0.104	0.754	0.117	0.142
0.405	0.27	0.788	0.527	0.818	0.447	0.027	0.141
0.669	0.428	0.833	0.763	0.874	0.374	0.49	0.132

8 in the tenths place O in the hundredths place







Multiplying and Dividing Decimals by 10, 100 and 1000

Aim: Multiply and Divide decimal numbers by 10, 100 and 1000

Multiply the following numbers by 10, 100 and 1000 to complete the table.

	× 10	× 100	× 1000
5.7			
23.02			
0.92			
0.306			
24.67			

Divide the following numbers by 10, 100 and 1000 to complete the table.

	÷ 10	÷ 100	÷ 1000
43			
219			
703			
64.8			
2560			

Complete the following table.

	× 10	÷ 10	÷ 100
507			
17.6			
			0.063
	2037		
		0.193	





Multiplying and Dividing Decimals by 10, 100 and 1000

Aim: Multiply and Divide decimal numbers by 10, 100 and 1000

Multiply the following numbers by 10, 100 and 1000 to complete the table.

	× 10	× 100	× 1000
4.02			
0.045			
34.094			
209.817			
0.006			

Divide the following numbers by 10, 100 and 1000 to complete the table.

	÷ 10	÷ 100	÷ 1000
56.9			
209			
4.56			
709.6			
0.072			

Complete the following table.

	× 1000	× 10	÷ 100
607			
4 901			
		0.8	
	17 809		
			0.37





Multiplying Single Digit Decimals

Calculate the following mentally:

0.1 × 8 =	0.03 × 4 =	9 × 0.5 =
7 × 0.05 =	6 × 0.8 =	0.02 × 9 =
0.7 × 8 =	0.05 × 7 =	0.06 × 6 =
7 × 0.9 =	0.6 × 7 =	4 × 0.02 =
0.06 × 3 =	8 × 0.8 =	0.08 × 8 =
1 × 0.05 =	0.4 × 7 =	6 × 0.09 =

Calculate the following, using a formal written method if required.

0.9 × 45 =	76 × 0.03 =	0.5 × 36 =
93 × 0.08 =	0.7 × 81 =	72 × 0.4 =
0.06 × 56 =	98 × 0.09 =	0.2 × 87 =



Multiply Single Digit Decimals Word Problems

Aim: to solve problems involving the multiplication of single digit decimals

1.	Pencils cost a school £0.07 each. A box holds 12 pencils. How much do 2 boxes cost the school?	
2.	A set of miniature gauge railway track contains 18 pieces that are 0.3m long How long would the railway be when all the peces of track are put together?	
3.	A shop buys a box of 72 mini chocolate bars from a wholesaler for £0.05 each. How much does the box cost?	
4.	Small boxes of sultanas weigh 0.06kg each. How much will 54 boxes weigh?	
5.	A stationery shop buys erasers for £0.03 each and sells them for £0.07. If	
	the shop sells 123 in a month, what profit is made on the erasers?	
6.	A hospital buys bottles of medicine. Each bottle contains 0.6 litres of medicine. How much medicine will be in a case of 15 bottles?	



Written Division

Calculate the following, giving answers with up to 2 decimal places:

Rounding to Specific Degrees of Accuracy

Round the following numbers to 1 decimal place.

- 1. 0.23 =
- 2. 0.79 =
- 3. 3.25 =
- 4. 9.205 =
- 5. 14.672 =
- 6. 24.535 =

Round the following numbers to 2 decimal places.

- 7. 0.284 =
- 8. 0.049 =
- 9. 7.725 =
- 10. 8.003 =
- 11. 14.562 =
- 12. 287.015 =

Rounding to Specific Degrees of Accuracy

1. A bicycle shop has a sale, and sells all its products with a 25% discount. Calculate the new prices of these items, rounding the answer to the nearest penny.

Item	Cost before 25% discount	Cost after 25% discount
Adult bicycle	£209.50	
Child's bicycle	£87.37	
Cycle helmet	£32.95	

2. A scientist collects 1 litre of river water to test for pollution and finds the following levels of chemicals. Calculate the percentage of each pollutant to 2 decimal places.

Pollutant	Amount	% of pollutant in 1 litre
Zinc	3.45ml	
Lead	5.82ml	
Copper	1.97ml	

3. A traveller wants to exchange some sterling for foreign currency for a journey. Using the exchange rates in the table below and the amounts required to be exchanged, calculate how much currency the traveller will be able to obtain to 2 decimal places.

Currency	£1 buys	Amount to exchange	Foreign currency
Euro	1.35436	£100	
Hungarian Forint	424.148	£30	
Swiss Franc	1.46594	£60	
Czech Koruna	36.6064	£40	





Solve Problems to Specified Degree of Accuracy

1. Over a season, a football team scores 84 goals in 38 matches. What is the mean number of goals per game, rounded to one decimal place?





2. A school fruit shop takes £34.67 in one school week. Giving the answer to the nearest penny, what is the mean amount taken each day?





3. A cricket team needs to score 258 runs in 50 overs. What is the average run rate the team needs to score each over, rounding the answer to one decimal place?



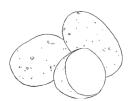


4. There are 12 pizzas for a class party. Each pizza is cut into 8 pieces, and is to be shared among 28 children. If shared equally, how many pieces would each child have to eat, rounded to one decimal place?





5. A farmer grows 2478kg of potatoes. He sells the crop equally between 5 local farm shops. What weight of potatoes will each shop get, to the nearest half a kilogram?





Recall and Use Equivalences

	25% of a class join the chess club. What fraction of children do not join	the chess club?
2.	A third of a box of crisps are salt and vinegar flavour. 50% are ready sa rest are cheese and onion. What fraction of the crisps are cheese and on	
3.	There are 30 children in a class, of whom twelve are boys. What fraction of the class are girls?	
4.	Seven tenths of a crowd at a football match support the home team. If are all away fans, what percentage of the crowd support the away tear	

5. There are 80 sweets in a bag. Complete the following table showing the number, fraction and percentage of each flavour.

Flavour	Number	Fraction	Percentage
Orange	20		
Strawberry	16		
Lime	44		

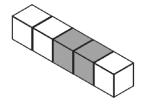




Percentage and Decimal Equivalents

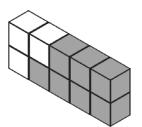
For each model, write the fraction and percentage of the cubes that are black.

1.



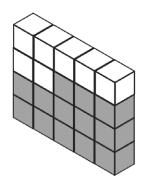
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2.



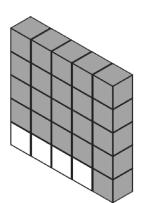
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3.



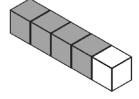
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4.



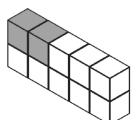


5.



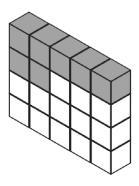


6.



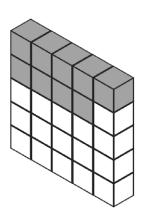


7.





8.





Calculate the values of the following and order them from smallest to largest.

9. a. 20% of 25

b. $\frac{1}{2}$ of 24

c. $\frac{2}{5}$ of 10

smallest

largest

10. a. $\frac{4}{5}$ of 35

b. 75% of 32

c. $\frac{1}{2}$ of 52





smallest

largest

11. a. 25% of 20

b. 80% of 10

c. $\frac{1}{20}$ of 80





smallest

largest

12. a. $\frac{1}{25}$ of 75

b. $\frac{2}{5}$ of 15

c. 40% of 10







smallest

largest

13.	α.	12%	of	50

b.
$$\frac{1}{4}$$
 of 28

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

- 1		





◡	
_	

smallest

largest



b.
$$\frac{1}{5}$$
 of 125





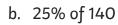


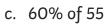


smallest

largest

15.
$$\alpha$$
. $\frac{4}{5}$ of 45











smallest

largest



b.
$$\frac{2}{5}$$
 of 105

c.
$$\frac{3}{4}$$
 of 64







smallest

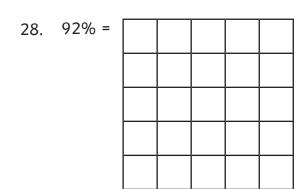
largest

Calculate the values of the following and order them from smallest to largest.

	Fraction	Decimal Fraction	Percentage
17.			40%
18.		0.50	
19.	1/4		
20.			80%
21.		0.30	
22.	<u>1</u> 5		
23.		0.75	
24.	<u>7</u> 25		

Calculate the values of the following and order them from smallest to largest.

26.
$$\frac{2}{5} = \boxed{ }$$



29.
$$\frac{3}{10} =$$

Proofreading Activities

Activity One

First identify the type of mistake in the passage, then correct the four mistakes.

Russell groaned his mum shouted up the stairs, "Russell, get up now or you'll be late – again!"

"Riiiight." he called back wearily. "It's always the same," he thought, "Just when you are warm, comfy and having a fabulous dre – what was that?" Russell's train of thought was interrupted by a small figure running along the top of the skirting boards. It was only there for a second, but he was sure he'd seen. Russell shook his head in an effort to 'reboot' his vision. But no, there it was again, this time climbing up the leg his desk. A small person, no more than 6 inches high, scaling the telegraph pole upright.

Russell felt no fear, only curiosity. It occurred to him that maybe he was a) dreaming or b) going slightly mad but he decided that having an imp or a pixie in his room was far more interesting than getting dressed, whatever the reason for its appearance. He approached slowly, much like when he was trying to catch his rabbit to put it to bed, "Mustn't spook it," he whispered himself.

"Oi, who are you calling it?" said a tiny voice.

Activity Two

First identify the type of mistake in the passage, then correct the 11 mistakes.

He wasn't exacly dressed like an elf, come to think of it. The boy (Russell was farely sure this was a boy now) had thick, dark hair which he war long and free. He wore an all-in-one suit made out of what seemed to be a flexible, smooth tweed. "That looks itchy," Russell though. He had a utility belt holding tinny tools: a hammer, pliers, a screwdriver and a quantity of wire ties. All perfect, minuscule replicas of fermiliar items in Russell's dad's tool box. On his back was a rucksack with, Russell presumed, his climbing geer inside it. On his feet were a pair of chocolate-brown boots which looked like leather gloves, but for feet. There was a seperate section for each toe. "Five toes through," Russell noted, "same as me." The eyes that were now looking at Russell expectently were deep brown, almost black and the elf's skin was shiny, soft-looking and a deep mahogany colour.





Activity Three

First identify the type of mistake in the passage, then correct the ten mistakes.

Russell blanched for a moment. "I, Im so sorry," he stammered. "I didn't mean to offend, its just I've never seen an elf before." At this, the little person (Russell had not yet decided if it was male or female) guffawed with laughter.

"An elf? An elf? That's rich coming from a giant!! Im no elf, Im a human."

"But so am I!" exclaimed Russell. He was in quite a state of excitement. This was the best Monday morning he'd had in years. "I'm a human being for definite. So how can you be one as well?"

The elf looked at him disdainfully, "Oh yes, well if you're human, why are you so massive? Its well known that Earths gravity would prevent anyone from growing as tall as you and its far more efficient to be my size – regular human size."

Russell was baffled. First of all, he was taken aback that the visitor was 6 inches tall and then secondly, he was told that 6 inches was 'regular size' and he was a giant. It all took some digesting. Then there was the suggestion that he didnt live on Earth. After all, there was apparently a problem with gravity. This was a lot to take in first thing on a Monday morning.

"Why dont you come down from that table leg and well talk properly?" he said eventually. "Would you like me to help you?"

"Certainly not!" said the elf. "I'm one of the best climbers of my generation, I can get down by myself perfectly well, thanks."

And with that, the tiny human began to let out some rope and abseil back down the leg of the desk. He soon trotted across the carpet and Russell sat down on the floor in order to look at him properly.

Questions for further assessment:

- 1. Which one did you find the easiest?
- 2. Which one did you find the hardest?



Tip: The one you found the hardest highlights the type of mistakes you may miss when proofreading your own work. That means you should practise with similar activities as often as you can. You should also take special care to check this aspect when proofreading your own work.





Proofreading Activities

Activity One

Type of mistake: words missing.

Russell groaned **as** his mum shouted up the stairs, "Russell, get up now or you'll be late – again!"

"Riiiight." he called back wearily. "It's always the same," he thought, "Just when you are warm, comfy and having a fabulous dre – what was that?" Russell's train of thought was interrupted by a small figure running along the top of the skirting boards. It was only there for a second, but he was sure he'd seen **it**. Russell shook his head in an effort to 'reboot' his vision. But no, there it was again, this time climbing up the leg **of** his desk. A small person, no more than 6 inches high, scaling the telegraph pole upright.

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"Oi, who are you calling it?" said a tiny voice.

Activity Two

Type of mistake: spelling including homophones and commonly misspelled words.

He wasn't **exactly** dressed like an elf, come to think of it. The boy (Russell was **fairly** sure this was a boy now) had thick, dark hair which he **wore** long and free. He wore an all-in-one suit made out of what seemed to be a flexible, smooth tweed. "That looks itchy," Russell **thought**. He had a utility belt holding **tiny** tools: a hammer, pliers, a screwdriver and a quantity of wire ties. All perfect, minuscule replicas of **familiar** items in Russell's dad's tool box. On his back was a rucksack with, Russell presumed, his climbing **gear** inside it. On his feet were a pair of chocolate-brown boots which looked like leather gloves, but for feet. There was a **separate** section for each toe. "Five toes **though**," Russell noted, "same as me." The eyes that were now looking at Russell **expectantly** were deep brown, almost black and the elf's skin was shiny, soft-looking and a deep mahogany colour.





Activity Three

Type of mistake: apostrophes missing.

Russell blanched for a moment. "I, **I'm** so sorry," he stammered. "I didn't mean to offend, **it's** just I've never seen an elf before." At this, the little person (Russell had not yet decided if it was male or female) guffawed with laughter.

"An elf? An elf? That's rich coming from a giant!! I'm no elf, I'm a human."

"But so am I!" exclaimed Russell. He was in quite a state of excitement. This was the best Monday morning he'd had in years. "I'm a human being for definite. So how can you be one as well?"

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Relative Clauses

The following sentences are about the Twinkl Originals story '<u>Code-Cracking for Beginners</u>'. Underline the **relative clause** in each of these sentences.

- 1. Sam, whose dad was fighting in the war, wanted to protect his family.
- 2. Filey, where Sam and Lily were evacuated to, is a town in Yorkshire.
- 3. Mrs Scales, who was a large, intimidating woman, often got food from the black market.
- 4. Tom, who had blonde, curly hair, became a really good friend to Lily and Sam.
- 5. The Second World War, when this story is set, was one of the most significant periods in British history.
- 6. He'd always boasted that he could find his secret hiding place blindfolded.

Select a relative pronoun from the word bank below to complete the rest of these sentences.						
	who	whose	when	where	that	which
7.	7. Rationing, was the process of sharing food out fairly during the war, was difficult for many people.					
8.	Mrs Ward, became a host for Sam, regretted not taking Lily too.					
9.	The local primary school, the RAF were building a base, was destroyed by the Luftwaffe.					
10.	The Luftwaffe, dropped bombs on London, were the German Air Force.					
Now create 5 complex sentences of your own with relative clauses.						





Relative Clauses Answers

Underline the relative clause in each of these sentences.

- 1. Sam, whose dad was fighting in the war, wanted to protect his family.
- 2. Filey, where Sam and Lily were evacuated to, is a town in Yorkshire.
- 3. Mrs Scales, who was a large, intimidating woman, often got food from the black market.
- 4. Tom, who had blonde, curly hair, became a really good friend to Lily and Sam.
- 5. The Second World War, **when this story is set**, was one of the most significant periods in British history.
- 6. He'd always boasted that he could find his secret hiding place blindfolded.

Select a relative pronoun from the word bank below to complete the rest of these sentences.

who whose when	where	that	which
----------------	-------	------	-------

- 7. Rationing, **which** was the process of sharing food out fairly during the war, was difficult for many people.
- 8. Mrs Ward, **who** became a host for Sam, regretted not taking Lily too.
- 9. The local primary school, **where** the RAF were building a base, was destroyed by the Luftwaffe.
- 10. The Luftwaffe, **who** dropped bombs on London, were the German Air Force.

Find out more about the Second World War with '<u>Code-Cracking for Beginners</u>' from Twinkl Originals.



