

Maths Assessment Year 5: Fractions

1. Compare and order fractions whose denominators are all multiples of the same number.
2. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.
3. Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$].
4. Add and subtract fractions with the same denominator, and denominators that are multiples of the same number.
5. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.
6. Read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$].
7. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.
8. Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place.
9. Read, write, order and compare numbers with up to 3 decimal places.
10. Solve problems involving number up to 3 decimal places.
11. Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100', and write percentages as a fraction with denominator 100, and as a decimal fraction.
12. Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.

Name:

Date:

Maths Assessment Year 5: Fractions

1. Compare and order fractions whose denominators are all multiples of the same number.

a) Use the symbols $<$ or $>$ to compare these fractions:

	$<$ or $>$	
$\frac{3}{4}$		$\frac{5}{8}$
$\frac{4}{9}$		$\frac{1}{3}$
$\frac{2}{5}$		$\frac{7}{15}$

b) Order these fractions from smallest to largest:

$$\frac{1}{4} \quad \frac{5}{8} \quad \frac{3}{16} \quad \frac{1}{20}$$

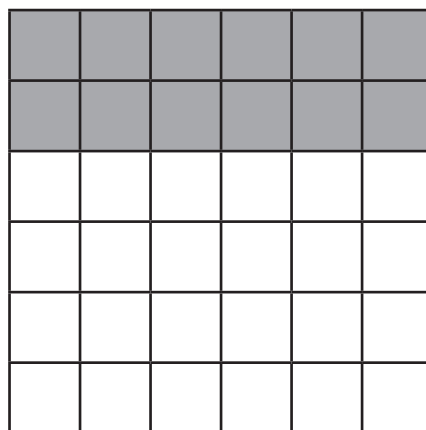
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smallest largest

2. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.

a) Here is a square. $\frac{12}{36}$ of the square has been shaded. Use the diagram to help you write two equivalent fractions of $\frac{12}{36}$.

$$\frac{12}{36} = \boxed{} = \boxed{}$$



b) Complete these equivalent pairs:

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

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

$$\frac{4}{} = \frac{8}{10}$$

3 marks

1 mark

2 marks

3 marks

Total for this page

3. Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$].

a) Convert these improper fractions into mixed numbers:

improper fraction	mixed number
$\frac{5}{2}$	
$\frac{6}{4}$	
$\frac{10}{3}$	
$\frac{15}{6}$	

b) Convert these mixed numbers into improper fractions:

mixed number	improper fraction
$5\frac{1}{2}$	
$3\frac{2}{3}$	
$3\frac{3}{4}$	
$1\frac{7}{8}$	

c) Add these fractions and write the answer as a mixed number:

$$\frac{3}{5} + \frac{4}{5} = \boxed{}$$

$$\frac{2}{9} + \frac{8}{9} = \boxed{}$$

4. Add and subtract fractions with the same denominator, and denominators that are multiples of the same number.

a) Add the following:

$$\frac{5}{9} + \frac{2}{9} = \boxed{}$$

$$\frac{1}{4} + \frac{3}{8} = \boxed{}$$

4 marks

4 marks

2 marks

2 marks

Total for this page

b) Subtract the following:

$$\frac{7}{10} - \frac{4}{10} =$$

$$\frac{9}{15} - \frac{1}{3} =$$

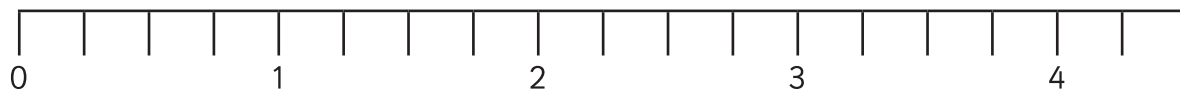


2 marks

5. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.

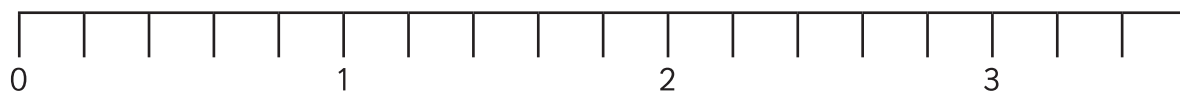
Use these number lines to help you multiply these fractions by a whole number:

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



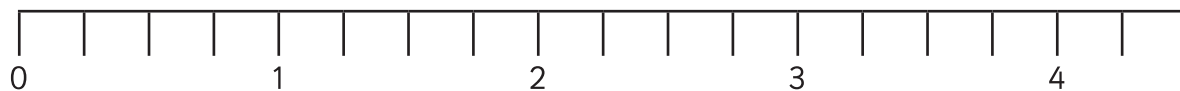
1 mark

$$\frac{2}{5} \times 6 =$$



1 mark

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



1 mark



Total for this page

6. Read and write decimal numbers as fractions.

Complete this table, writing decimals as fractions and fractions as decimals:

decimals	fractions
0.34	
	$\frac{3}{10}$
0.09	
	$\frac{17}{100}$

4 marks

7. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.

Complete the missing boxes:

$$\frac{45}{1000} =$$

0.

$$\frac{300}{1000} =$$

$\frac{\quad}{10}$

$$\frac{250}{1000} =$$

$\frac{\quad}{100}$

3 marks

8. Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place.

a) Round these numbers to the nearest whole number:

16.47	
182.75	
20.06	
197.99	
1200.66	

5 marks

Total for this page

b) Round These numbers to 1 decimal place:

17.58	
124.63	
501.33	
1790.69	
2432.45	

5 marks

9. Read, write, order and compare numbers with up to 3 decimal places.

a) Use the symbols $<$ or $>$ to compare these decimals:

	$<$ or $>$	
12.54		12.56
101.23		101.206
1987.52		1987.561
16341.06		16341.1

4 marks

b) order these numbers from largest to smallest;

12.643 11.78 12.7 11.871

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largest

smallest

1 mark

10. Solve problems involving number up to 3 decimal places.

1 mile = 1.609km

a) Jamil enjoys cycling. He rides 10 miles on Monday. What is that in km? Show your working out.



1 mark

Total for this page

b) Jamil cycles 6 miles on Saturday, his friend, Tom cycles 8.4km. Who rides the most and how much further does he ride? Show your working out.



2 marks

11. Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100', and write percentages as a fraction with denominator 100, and as a decimal fraction.

Complete this table:

percentage	fraction	decimal
50%		
	$\frac{55}{100}$	
		0.75
65%		
	$\frac{82}{100}$	



5 marks



Total for this page

12. Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.

Here are the prices of teddies in 2 different shops:

Toyphoon



Teddy £9

Geppetto's Workshop



Teddy £7

In the Sales, Geppetto's Workshop reduces the Teddy by 50% and Toyphoon takes $\frac{2}{5}$ off their Teddy. How much would each teddy cost? Show your working out.

4 marks

Total for
this page

question	answer	marks	notes									
1. Compare and order fractions whose denominators are all multiples of the same number.												
a	<table><tr><td>$\frac{3}{4}$</td><td>$>$</td><td>$\frac{5}{8}$</td></tr><tr><td>$\frac{4}{9}$</td><td>$>$</td><td>$\frac{1}{3}$</td></tr><tr><td>$\frac{2}{5}$</td><td>$<$</td><td>$\frac{7}{15}$</td></tr></table>	$\frac{3}{4}$	$>$	$\frac{5}{8}$	$\frac{4}{9}$	$>$	$\frac{1}{3}$	$\frac{2}{5}$	$<$	$\frac{7}{15}$	3	
$\frac{3}{4}$	$>$	$\frac{5}{8}$										
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$\frac{2}{5}$	$<$	$\frac{7}{15}$										
b	<table><tr><td>$\frac{1}{20}$</td><td>$\frac{3}{16}$</td><td>$\frac{1}{4}$</td><td>$\frac{5}{8}$</td></tr></table>	$\frac{1}{20}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{8}$	1						
$\frac{1}{20}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{8}$									
2. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.												
a	Two fractions from: $\frac{2}{6}$ $\frac{1}{3}$ $\frac{6}{18}$ $\frac{4}{12}$ $\frac{3}{9}$	2										
b	$\frac{3}{4} = \frac{6}{8}$ $\frac{4}{6} = \frac{2}{3}$ $\frac{4}{5} = \frac{8}{10}$	3										
3. Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1 \frac{1}{5}$].												
a	<table><tr><td>$\frac{5}{2}$</td><td>$2 \frac{1}{2}$</td></tr><tr><td>$\frac{6}{4}$</td><td>$1 \frac{3}{4}$ or $1 \frac{1}{2}$</td></tr><tr><td>$\frac{10}{3}$</td><td>$3 \frac{1}{3}$</td></tr><tr><td>$\frac{15}{6}$</td><td>$2 \frac{3}{6}$ or $2 \frac{1}{2}$</td></tr></table>	$\frac{5}{2}$	$2 \frac{1}{2}$	$\frac{6}{4}$	$1 \frac{3}{4}$ or $1 \frac{1}{2}$	$\frac{10}{3}$	$3 \frac{1}{3}$	$\frac{15}{6}$	$2 \frac{3}{6}$ or $2 \frac{1}{2}$	4		
$\frac{5}{2}$	$2 \frac{1}{2}$											
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c	$\frac{3}{5} + \frac{4}{5} = 1 \frac{2}{5}$ $\frac{2}{9} + \frac{8}{9} = 1 \frac{1}{9}$	2										
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	$\frac{5}{9} + \frac{2}{9} = \frac{7}{9}$ $\frac{1}{4} + \frac{3}{8} = \frac{5}{8}$ $\frac{7}{10} - \frac{4}{10} = \frac{3}{10}$ $\frac{9}{15} - \frac{1}{3} = \frac{4}{15}$	4										

question	answer	marks	notes												
5. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.															
	$\frac{3}{4} \times 5 = 3 \frac{3}{4}$ $\frac{2}{5} \times 6 = 2 \frac{2}{5}$ $1 \frac{1}{4} \times 3 = 3 \frac{3}{4}$	3													
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question	answer	marks	notes															
10. Solve problems involving number up to 3 decimal places.																		
a	16.09km	1																
b	6 miles=9.654km Jamil by 1.254km	up to 2 marks	Award 1 mark if answer shows an appropriate method of working out but incorrect answer															
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	Geppetto's Workshop Teddy costs £7 50% of £7 = 3.50 Teddy now costs £3.50	up to 2 marks	Award 1 mark if answer shows an appropriate method of working out but incorrect answer															
	Toyphoon Teddy costs £9 $\frac{2}{5}$ (40%) of £9 = 3.60 Teddy now costs £5.40	up to 2 marks	Award 1 mark if answer shows an appropriate method of working out but incorrect answer															
		Total 60																