Name:

Maths Assessment Year 5 Term 3: 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.

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Maths Assessment Year 5 Term 3: 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 >	
$\frac{4}{5}$		$\frac{9}{10}$
$\frac{7}{12}$		$\frac{3}{6}$
$\frac{3}{4}$		$\frac{9}{12}$

3 marks

b) Order these fractions from smallest to largest:

$\frac{5}{6}$ $\frac{21}{24}$ $\frac{11}{12}$ $\frac{2}{3}$

smallest   largest

1 mark

. . . .

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

a) Here is a rectangle. $\frac{6}{18}$ of the square has been shaded. Use the diagram to help you write two equivalent fractions of $\frac{6}{18}$.

$\frac{6}{18}$ = ⬚ = ⬚
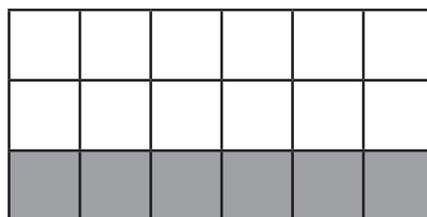
2 marks

b) Write 3 fractions equivalent to 3/4:

$\frac{3}{4}$ = ⬚

$\frac{3}{4}$ = ⬚

$\frac{3}{4}$ = ⬚

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) Draw lines to match the following improper fractions and mixed numbers:

improper fraction		mixed number
$\frac{14}{4}$		$4 \frac{1}{4}$
$\frac{17}{4}$		$2 \frac{1}{4}$
$\frac{15}{4}$		$3 \frac{3}{4}$
$\frac{9}{4}$		$3 \frac{1}{2}$

b) Complete the following table:

Improper fraction	Mixed number
$\frac{12}{5}$	
$\frac{19}{6}$	
	$2 \frac{7}{8}$
	$1 \frac{1}{2}$

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

$\frac{5}{8} + \frac{7}{8} = \boxed{}$

$\frac{7}{9} + \frac{5}{9} = \boxed{}$

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

a) Add the following:

$\frac{3}{7} + \frac{2}{7} = \boxed{}$

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

b) Subtract the following:

$$\frac{7}{12} - \frac{3}{12} = \boxed{}$$

$$\frac{5}{6} - \frac{2}{3} = \boxed{}$$

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

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

$$\frac{1}{5} \times 8 = \boxed{}$$

0   1   2   3   4
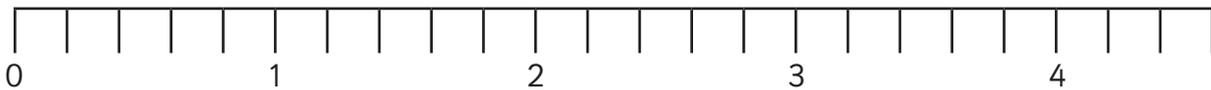
$$\frac{5}{6} \times 3 = \boxed{}$$

0   1   2   3

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

0   1   2   3   4
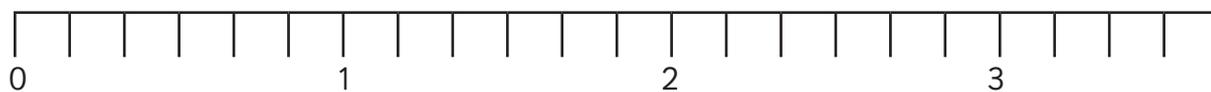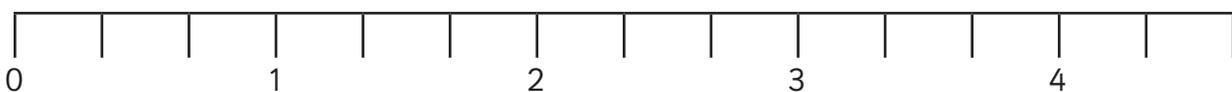
6. Read and write decimal numbers as fractions

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

decimals	fractions
	$\frac{16}{100}$
0.07	
0.9	
	$\frac{87}{100}$

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

Complete the missing boxes:

$\frac{7}{1000}$ = $\boxed{0.}$

$\frac{100}{1000}$ = $\boxed{\frac{}{10}}$

$\frac{750}{1000}$ = $\boxed{\frac{}{100}}$

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

a) Circle the numbers which are rounded to 23 when rounded to the nearest whole number:

22.37   23.49   22.87   23.5   22.5   23.67

b) Circle the numbers which are rounded to 4.7 when rounded to the nearest:

4.75   4.65   4.62   4.72   4.69   4.76

c) Write the value to which these numbers are rounded:

Number	Rounded to the nearest (e.g. tenth, whole number)	Number to which it is rounded
3.73		4
3.73		3.7
28.92		28.9
28.92		29

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

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

	< or >	
45.54		45.45
203.02		203.1
781.78		781.779
6067.67		6067.7

b) order these numbers from largest to smallest;

| 55.005 | 550.05 | 50.505 | 550.055 |

largest   smallest

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

1 pint = 0.568 litres

a) A recipe says Jack needs 1 1/2 pints of stock, but he only has a litre measuring jug. How much stock should he use?

b) 1 gallon is 8 pints. How many litres is 1 gallon?

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
		0.34
	$\frac{7}{10}$	
99%		
		0.06
	$\frac{46}{100}$	

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.

a) In a class of children 40% of the children are boys. What fraction of the class are girls?

b) There are 18 girls. How many children in the class altogether?

c) 25% of the boys wear glasses. How many boys wear glasses?

Answer Sheet: Maths Assessment Year 5 Term 3: Fractions

question	answer	marks	notes
1. Compare and order fractions whose denominators are all multiples of the same number.			
a	$\frac{4}{5}$ **<** $\frac{9}{10}$ $\frac{7}{12}$ **>** $\frac{3}{6}$ $\frac{3}{4}$ **=** $\frac{9}{12}$	3	
b	$\frac{2}{3}$ $\frac{5}{6}$ $\frac{21}{24}$ $\frac{11}{12}$	1	
2. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.			
a	Two fractions from: $\frac{1}{3}$ $\frac{2}{6}$ $\frac{3}{9}$ $\frac{4}{12}$ $\frac{5}{15}$	2	While other answers are equivalent to $\frac{6}{18}$, they are not represented by the diagram.
b	Any fractions equivalent to $\frac{3}{4}$ eg. $\frac{3}{4}$, $\frac{6}{8}$, $\frac{9}{12}$... $\frac{30}{40}$... $\frac{60}{80}$... $\frac{300}{400}$	3	3 marks for 3 correct fractions. 2 marks for 2 correct fractions and no errors. 1 mark for 2 correct fractions and 1 error, or 1 correct and no error.
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	$\frac{14}{4}$ — 4 $\frac{1}{4}$ $\frac{17}{4}$ — 2 $\frac{1}{4}$ $\frac{15}{4}$ — 3 $\frac{3}{4}$ $\frac{9}{4}$ — 3 $\frac{1}{2}$	4	
b	$\frac{12}{5}$ — 2 $\frac{2}{5}$ $\frac{19}{6}$ — 3 $\frac{1}{6}$ $\frac{23}{8}$ — 2 $\frac{7}{8}$ $\frac{3}{2}$ — 1 $\frac{1}{2}$	4	
c	1 $\frac{4}{8}$ or 1 $\frac{1}{2}$ 1 $\frac{3}{9}$ or 1 $\frac{1}{3}$	2	
4. Add and subtract fractions with the same denominator, and denominators that are multiples of the same number.			
a	$\frac{3}{7} + \frac{2}{7} = \frac{5}{7}$ $\frac{1}{8} + \frac{1}{4} = \frac{3}{8}$	2	
b	$\frac{7}{12} - \frac{3}{12} = \frac{4}{12}$ $\frac{5}{6} - \frac{2}{3} = \frac{1}{6}$	2	

question	answer	marks	notes
5. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.			
	$\frac{1}{5}$ x 8 = 1 $\frac{3}{5}$ $\frac{5}{6}$ x 3 = 2 $\frac{3}{6}$ or 2 $\frac{1}{2}$ 1 $\frac{2}{3}$ x 2 = 3 $\frac{1}{3}$	3	
6. Read and write decimal numbers as fractions [for example, 0.71 = $\frac{71}{100}$].			
	<table><tr><td>Decimals</td><td>Fractions</td></tr><tr><td>0.16</td><td>$\frac{16}{100}$</td></tr><tr><td>0.07</td><td>$\frac{7}{100}$</td></tr><tr><td>0.9</td><td>$\frac{9}{10}$ or $\frac{90}{100}$</td></tr><tr><td>0.87</td><td>$\frac{87}{100}$</td></tr></table>	4	
7. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.			
	0.007 $\frac{1}{10}$ $\frac{75}{100}$	3	
8. Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place.			
a	23.49, 22.87, 22.5	3	3 marks for 3 correct numbers. 2 marks for 2 correct numbers and no errors. 1 mark for 2 correct numbers and 1 error, or 1 correct and no error.
b	4.65, 4.72, 4.69	3	3 marks for 3 correct numbers. 2 marks for 2 correct numbers and no errors. 1 mark for 2 correct numbers and 1 error, or 1 correct and no error.
c	<table><tr><td>Number</td><td>Rounded to the nearest</td><td>Number to which it is rounded</td></tr><tr><td>3.73</td><td>**1**</td><td>4</td></tr><tr><td>3.73</td><td>**0.1**</td><td>3.7</td></tr><tr><td>28.92</td><td>**0.1**</td><td>28.9</td></tr><tr><td>28.92</td><td>**1**</td><td>29</td></tr></table>	4	accept whole number or tenth as appropriate.

question	answer	marks	notes
9. Read, write, order and compare numbers with up to 3 decimal places.			
a	<table><tr><td>45.54</td><td>**>**</td><td>45.45</td></tr><tr><td>203.02</td><td>**<**</td><td>203.1</td></tr><tr><td>781.78</td><td>**>**</td><td>781.779</td></tr><tr><td>6067.67</td><td>**<**</td><td>6067.7</td></tr></table>	4	
b	550.055 550.05 55.005 50.505	1	
10. Solve problems involving number up to 3 decimal places.			
a	0.852l	1	
b	4.544l	2	Award 1 mark for correct method where there is only one mistake in calculation.
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.			
	<table><tr><td>34%</td><td>**34/10**</td><td>0.34</td></tr><tr><td>**70%**</td><td>7/10</td><td>**0.7**</td></tr><tr><td>99%</td><td>**99/100**</td><td>0.99</td></tr><tr><td>6%</td><td>**6/100**</td><td>0.06</td></tr><tr><td>**46%**</td><td>46/100</td><td>**0.46**</td></tr></table>	5	allow 0.50 allow 0.80
12. Solve problems which require knowing percentage and decimal equivalents of ½, ¼, ⅕, ⅖, ⅘ and those fractions with a denominator of a multiple of 10 or 25.			
a	⅗	1	1 mark for an incorrect answer if method is correct and there is only 1 mistake in calculating
b	30	2	
c	3	1	1 mark can be awarded if using an incorrect number of boys and the answer is calculated correctly.
		Total 60	