

Name:

## Math Assessment Grade 5 Term 2: Fractions

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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 percent 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:

## Math Assessment Grade 5 Term 2: 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 $>$	
$\frac{1}{2}$		$\frac{5}{10}$
$\frac{7}{16}$		$\frac{3}{8}$
$\frac{2}{3}$		$\frac{9}{12}$

b) Order these fractions from smallest to largest:

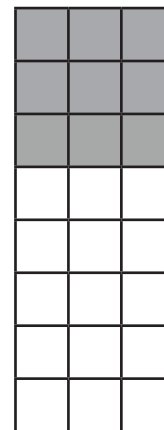
$$\frac{2}{5} \quad \frac{3}{10} \quad \frac{3}{15} \quad \frac{9}{20}$$

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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 rectangle.  $\frac{9}{24}$  of the rectangle has been shaded. Use the diagram to help you write two equivalent fractions of  $\frac{9}{24}$ .



$$\frac{9}{24} = \boxed{\phantom{000}} = \boxed{\phantom{000}}$$

b) Identify the fractions that are equivalent to  $\frac{3}{5}$

$$\frac{8}{13} \quad \frac{6}{15} \quad \frac{7}{12} \quad \frac{9}{15} \quad \frac{6}{10} \quad \frac{7}{10} \quad \frac{12}{20}$$

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 and vice versa:

improper fraction	mixed number
$\frac{14}{6}$	
	$2\frac{3}{4}$
$\frac{13}{4}$	
$\frac{5}{3}$	
	$4\frac{1}{3}$
$\frac{11}{5}$	
	$2\frac{5}{6}$
	$5\frac{1}{2}$

b) Write the answers as both mixed and improper fractions.

$$\frac{5}{6} + \frac{2}{6} = \boxed{\phantom{000}} \boxed{\phantom{000}}$$

$$\frac{7}{12} + \frac{11}{12} = \boxed{\phantom{000}} \boxed{\phantom{000}}$$

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

a) Add the following:

$$\frac{2}{10} + \frac{7}{10} = \boxed{\phantom{000}}$$

$$\frac{1}{3} + \frac{1}{6} = \boxed{\phantom{000}}$$

8 marks

2 marks

2 marks

Total for this page

b) Subtract the following:

$$\frac{6}{7} - \frac{3}{7} = \boxed{\phantom{000}}$$

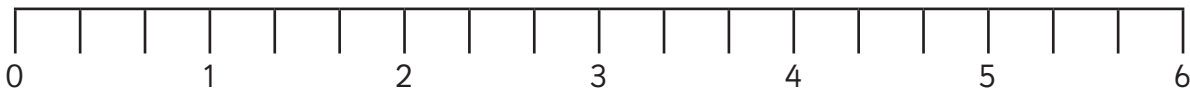
$$\frac{7}{12} - \frac{1}{4} = \boxed{\phantom{000}}$$

2 marks

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

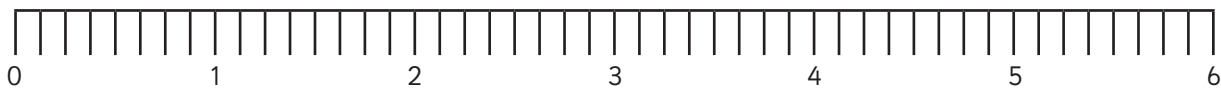
Use these number lines to help you multiply these fractions by a whole number:

$$\frac{2}{3} \times 5 = \boxed{\phantom{000}}$$



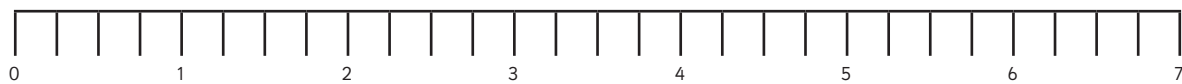
1 mark

$$\frac{3}{8} \times 4 = \boxed{\phantom{000}}$$



1 mark

$$2\frac{1}{4} \times 3 = \boxed{\phantom{000}}$$



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
0.51	
	$\frac{7}{10}$
0.12	
	$\frac{4}{100}$

4 marks

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

Complete the missing boxes:

$$\frac{31}{1000} = \boxed{0.}$$

$$\frac{550}{1000} = \boxed{\frac{\quad}{100}}$$

$$\frac{900}{1000} = \boxed{\frac{\quad}{10}}$$

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:

17.09	
291.82	
34.53	
199.49	
2652.14	

5 marks

Total for this page

b) Round These numbers to 1 decimal place:

2.76	
34.05	
478.92	
1900.38	
3891.02	

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 $>$	
31.09		31.9
345.76		345.759
208.66		208.666
3001.03		3001.12

4 marks

b) Order these numbers from largest to smallest.

7.077    77.007    7.707    7.7

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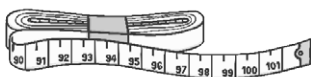
largest smallest

1 mark

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

**1 inch = 2.54 cm**

a) Tom measures the width of a square as 9.5 inches, but needs to convert it to centimetres. What is 9.5 inches in cm?



1 mark

Total for this page

**1 cm = 0.394 inches**

b) Tom now needs to convert a measurement of 15cm back into inches. What is 15cm in inches?

2 marks

11. Recognise the percent 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
	$\frac{1}{2}$	
25%		
		0.66
2%		
	$\frac{80}{100}$	

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 soccer shirts in 2 different shops:

**Sports World**



Shirt \$25

**Soccer Heaven**



Shirt \$24

In the sales, Sports World reduces the shirt by 20% and Soccer Heaven cuts the price by  $\frac{1}{4}$ . How much would each shirt cost? Show your working out.

4 marks

Total for this page



# Answer Sheet: Math Assessment Grade 5 Term 2: Fractions

Question	Answer	Marks	Notes																
<b>1. Compare and order fractions whose denominators are all multiples of the same number.</b>																			
a	<table border="1"> <tr> <td><math>\frac{1}{2}</math></td> <td>=</td> <td><math>\frac{5}{10}</math></td> </tr> <tr> <td><math>\frac{7}{16}</math></td> <td>&gt;</td> <td><math>\frac{3}{8}</math></td> </tr> <tr> <td><math>\frac{2}{3}</math></td> <td>&lt;</td> <td><math>\frac{9}{12}</math></td> </tr> </table>	$\frac{1}{2}$	=	$\frac{5}{10}$	$\frac{7}{16}$	>	$\frac{3}{8}$	$\frac{2}{3}$	<	$\frac{9}{12}$	3								
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<b>2. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.</b>																			
a	Two fractions from: $\frac{3}{8}$ and $\frac{6}{16}$	2	While other answers are equivalent to $\frac{9}{24}$ , they are not represented by the diagram.																
b	$\frac{9}{15}$ , $\frac{6}{10}$ , $\frac{12}{20}$	3	All 3 correct for 3 marks. 2 correct and none incorrect for 2 marks 1 correct and none incorrect or 2 correct and one incorrect for 1 mark.																
<b>3. Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements <math>&gt; 1</math> as a mixed number [for example, <math>\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1 \frac{1}{5}</math>].</b>																			
a	<table border="1"> <tr> <td><math>\frac{14}{6}</math></td> <td><math>2 \frac{2}{6}</math> or <math>2 \frac{1}{3}</math></td> </tr> <tr> <td><math>\frac{11}{4}</math></td> <td><math>2 \frac{3}{4}</math></td> </tr> <tr> <td><math>\frac{13}{4}</math></td> <td><math>3 \frac{1}{4}</math></td> </tr> <tr> <td><math>\frac{5}{3}</math></td> <td><math>1 \frac{2}{3}</math></td> </tr> <tr> <td><math>\frac{13}{3}</math></td> <td><math>4 \frac{1}{3}</math></td> </tr> <tr> <td><math>\frac{11}{5}</math></td> <td><math>2 \frac{1}{5}</math></td> </tr> <tr> <td><math>\frac{17}{6}</math></td> <td><math>2 \frac{5}{6}</math></td> </tr> <tr> <td><math>\frac{11}{2}</math></td> <td><math>5 \frac{1}{2}</math></td> </tr> </table>	$\frac{14}{6}$	$2 \frac{2}{6}$ or $2 \frac{1}{3}$	$\frac{11}{4}$	$2 \frac{3}{4}$	$\frac{13}{4}$	$3 \frac{1}{4}$	$\frac{5}{3}$	$1 \frac{2}{3}$	$\frac{13}{3}$	$4 \frac{1}{3}$	$\frac{11}{5}$	$2 \frac{1}{5}$	$\frac{17}{6}$	$2 \frac{5}{6}$	$\frac{11}{2}$	$5 \frac{1}{2}$	8	
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a	$\frac{2}{10} + \frac{7}{10} = \frac{9}{10}$	4																	
b	$\frac{1}{3} + \frac{1}{6} = \frac{3}{6}$ or $\frac{1}{2}$																		
	$\frac{6}{7} - \frac{3}{7} = \frac{3}{7}$																		
	$\frac{7}{12} - \frac{1}{4} = \frac{4}{12}$ or $\frac{1}{3}$																		

Question	Answer	Marks	Notes												
<b>5. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.</b>															
	$\frac{2}{3} \times 5 = 3 \frac{1}{3}$ $\frac{3}{8} \times 4 = 1 \frac{4}{8}$ or $1 \frac{1}{2}$ $2 \frac{1}{4} \times 3 = 6 \frac{3}{4}$	3													
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Question	Answer	Marks	Notes															
<b>10.</b> Solve problems involving number up to 3 decimal places.																		
a	24.13cm	1																
b	5.91 inches	up to 2 marks	Award 1 mark for correct method where there is only one mistake in calculation.															
<b>11.</b> 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.																		
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	Sports World \$20	up to 2 marks	2 marks for each correct answer.															
	Soccer Heaven \$18	up to 2 marks	1 mark for an incorrect answer if the correct percentage or fraction is calculated.															
		Total 60																