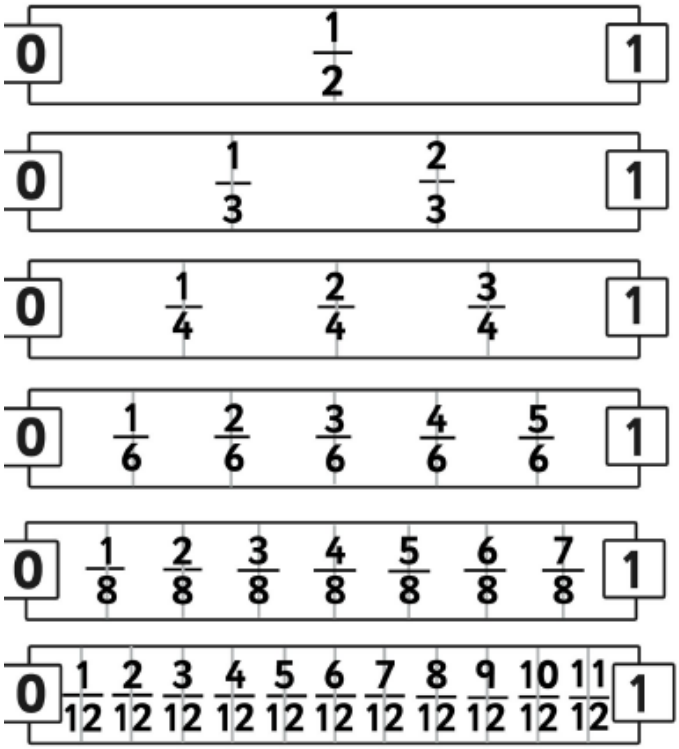
Equivalent Fractions – Lesson 1

Using the fraction lines on the left, work out the equivalent fractions:

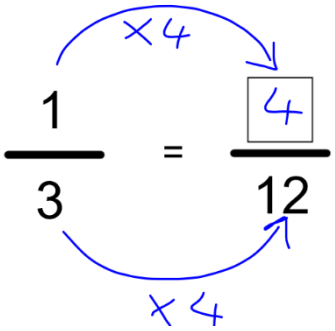


1) $\frac{1}{2} = \frac{}{6}$ **2)** $\frac{1}{4} = \frac{}{8}$ **3)** $\frac{9}{12} = \frac{}{4}$

4) $\frac{3}{4} = \frac{}{12}$ **5)** $\frac{6}{8} = \frac{}{4}$ **6)** $\frac{4}{12} = \frac{}{6}$

7) $\frac{1}{6} = \frac{}{12}$ **8)** $\frac{3}{6} = \frac{}{4}$ **9)** $\frac{2}{3} = \frac{}{6}$

10) $\frac{10}{12} = \frac{}{6}$ **11)** $\frac{9}{12} = \frac{}{4}$ **12)** $\frac{4}{6} = \frac{}{12}$



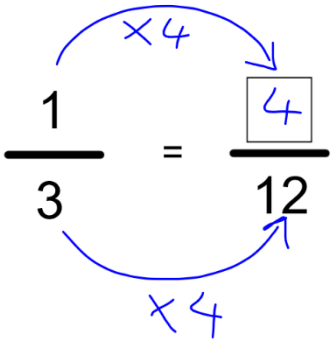
In these next set of questions, you do not need fraction bars to calculate equivalent fractions. Look at the denominators in both fractions and work out what the first denominator has been multiplied by to get the second denominator (in the example here the 3 was multiplied by 4 to get 12). Then treat the numerator the same (therefore multiply the known numerator by 4)

<u>Fill in the numerators below to make the fractions equivalent.</u>

1. $\frac{1}{2} = \frac{\square}{4}$	2. $\frac{1}{12} = \frac{\square}{24}$	3. $\frac{1}{10} = \frac{\square}{20}$	4. $\frac{1}{8} = \frac{\square}{16}$
5. $\frac{3}{20} = \frac{\square}{40}$	6. $\frac{1}{6} = \frac{\square}{12}$	7. $\frac{1}{5} = \frac{\square}{10}$	8. $\frac{1}{4} = \frac{\square}{16}$
9. $\frac{3}{10} = \frac{\square}{20}$	10. $\frac{1}{3} = \frac{\square}{12}$	11. $\frac{7}{20} = \frac{\square}{40}$	12. $\frac{3}{8} = \frac{\square}{16}$

Equivalent Fractions – Lesson 1 (continued)

In these next set of questions, you do not need fraction bars to calculate equivalent fractions. Look at the denominators in both fractions and work out what the first denominator has been multiplied by to get the second denominator (in the example here the 3 was multiplied by 4 to get 12). Then treat the numerator the same (therefore multiply the known numerator by 4)



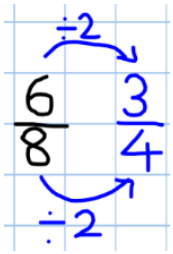
Complete the following fractions to make the fractions equivalent.

1. $\frac{1}{2} = \frac{\square}{8}$	2. $\frac{3}{\square} = \frac{6}{10}$	3. $\frac{3}{4} = \frac{12}{\square}$	4. $\frac{\square}{10} = \frac{1}{2}$
5. $\frac{7}{\square} = \frac{14}{16}$	6. $\frac{2}{3} = \frac{\square}{12}$	7. $\frac{\square}{6} = \frac{4}{24}$	8. $\frac{1}{8} = \frac{2}{\square}$
9. $\frac{2}{10} = \frac{\square}{5}$	10. $\frac{2}{\square} = \frac{1}{3}$	11. $\frac{4}{5} = \frac{16}{\square}$	12. $\frac{\square}{16} = \frac{1}{4}$
13. $\frac{2}{\square} = \frac{8}{20}$	14. $\frac{2}{24} = \frac{\square}{12}$	15. $\frac{\square}{8} = \frac{3}{4}$	16. $\frac{8}{16} = \frac{1}{\square}$
17. $\frac{16}{20} = \frac{\square}{5}$	18. $\frac{7}{\square} = \frac{14}{20}$	19. $\frac{2}{12} = \frac{1}{\square}$	20. $\frac{\square}{16} = \frac{5}{8}$
21. $\frac{1}{\square} = \frac{8}{40}$	22. $\frac{4}{40} = \frac{\square}{20}$	23. $\frac{\square}{3} = \frac{8}{24}$	24. $\frac{10}{12} = \frac{5}{\square}$

Simplifying Fractions – Lesson 2

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

Example



Look for a number which is a factor of both 6 (numerator) and 8 (denominator). 2 is a factor of both. Next divide both the numerator and denominator by this factor (2) and you have a simplified fraction. 6 ÷ 2 = 3, 8 ÷ 2 = 4. These are the new numerator and denominator.

1. $\frac{8}{16} = \frac{\quad}{\quad}$

2. $\frac{7}{21} = \frac{\quad}{\quad}$

3. $\frac{9}{15} = \frac{\quad}{\quad}$

4. $\frac{2}{10} = \frac{\quad}{\quad}$

5. $\frac{3}{12} = \frac{\quad}{\quad}$

6. $\frac{5}{20} = \frac{\quad}{\quad}$

7. $\frac{8}{20} = \frac{\quad}{\quad}$

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

9. $\frac{12}{24} = \frac{\quad}{\quad}$

10. $\frac{10}{15} = \frac{\quad}{\quad}$

11. $\frac{4}{16} = \frac{\quad}{\quad}$

12. $\frac{6}{12} = \frac{\quad}{\quad}$

13. $\frac{4}{16} = \frac{\quad}{\quad}$

14. $\frac{9}{12} = \frac{\quad}{\quad}$

15. $\frac{6}{18} = \frac{\quad}{\quad}$

16. $\frac{10}{30} = \frac{\quad}{\quad}$

17. $\frac{10}{25} = \frac{\quad}{\quad}$

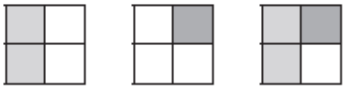
18. $\frac{10}{16} = \frac{\quad}{\quad}$

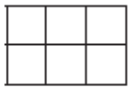
Challenge: Devise your own for a friend.

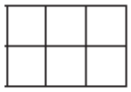
Addng & Subtracting Fractions – Lesson 3

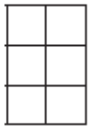
For the first fraction in each calculation, shade the correct number of columns. For the second fraction, shade the correct number of squares. Use the diagram to calculate the answer.

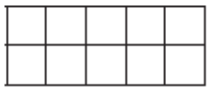
Example: $\frac{1}{2} + \frac{1}{4} = \frac{3}{4}$



1. $\frac{1}{3} + \frac{1}{6} =$ 

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

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

4. $\frac{2}{5} + \frac{3}{10} =$ 

5. $\frac{5}{6} + \frac{1}{12} =$ 

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

7. $\frac{2}{5} + \frac{2}{15} =$ 

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

$\frac{2}{3} + \frac{1}{6} =$ ☐

$\frac{1}{2} + \frac{1}{4} =$ ☐

$\frac{1}{4} + \frac{3}{8} =$ ☐

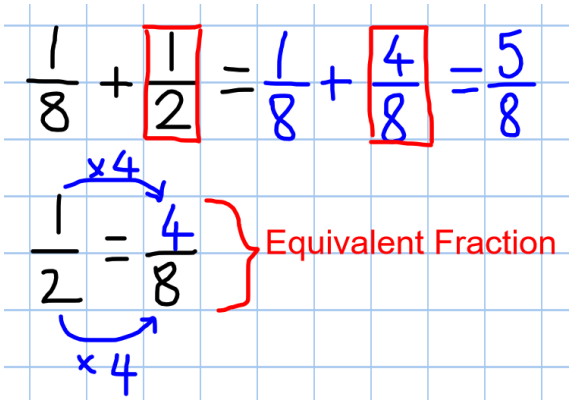
$\frac{1}{3} + \frac{1}{6} =$ ☐

$\frac{1}{8} + \frac{1}{2} =$ ☐

$\frac{1}{4} + \frac{5}{8} =$ ☐

$\frac{1}{2} + \frac{3}{8} =$ ☐

To add fractions with different denominators you need to change/convert them to the same denominators – this can be done by using the method we learnt when calculating equivalent fractions. See the example below.



$\frac{1}{10} + \frac{4}{5} =$ ☐

$\frac{1}{5} + \frac{7}{10} =$ ☐

$\frac{5}{7} + \frac{3}{14} =$ ☐

$\frac{1}{14} + \frac{6}{7} =$ ☐

$\frac{2}{7} + \frac{5}{14} =$ ☐

$\frac{3}{8} + \frac{1}{16} =$ ☐

$\frac{5}{16} + \frac{5}{8} =$ ☐

Finding Fractions of amounts – Lesson 4

A Unit fraction is a fraction that has a numerator of 1. To find a Unit Fraction of a number follow this simple step: Divide the number by the denominator of the unit fraction.

Find the unit fractions of these amounts?

1) ½ of 24 =	2) ¼ of 8 =	3) $\frac{1}{3}$ of 12 =	4) $\frac{1}{5}$ of 10 =
5) $\frac{1}{3}$ of 18 =	6) ¼ of 20 =	7) $\frac{1}{5}$ of 15 =	8) $\frac{1}{7}$ of 14 =
9) $\frac{1}{10}$ of 10 =	10) $\frac{1}{3}$ of 21 =	11) ¼ of 24 =	12) $\frac{1}{8}$ of 24 =
13) $\frac{1}{9}$ of 27 =	14) $\frac{1}{5}$ of 25 =	15) $\frac{1}{8}$ of 32 =	16) $\frac{1}{12}$ of 12 =
17) $\frac{1}{6}$ of 30 =	18) ½ of 50 =	19) ¼ of 36 =	20) $\frac{1}{7}$ of 28 =
21) $\frac{1}{9}$ of 36 =	22) $\frac{1}{3}$ of 39 =	23) $\frac{1}{5}$ of 40 =	24) $\frac{1}{8}$ of 80 =
25) $\frac{1}{6}$ of 48 =	26) $\frac{1}{9}$ of 81 =	27) $\frac{1}{7}$ of 56 =	28) $\frac{1}{8}$ of 64 =

Find the answers to these questions, and then use the code grid below to find the code word. The first letter is done for you.

CODE GRID											
4	7	3	8	2	1	5	10	6	7	12	15
F	T	R	O	C	A	T	I	S	N	E	L

½ of 8	¼ of 12	$\frac{1}{6}$ of 6	$\frac{1}{8}$ of 16	$\frac{1}{3}$ of 15	$\frac{1}{5}$ of 50	¼ of 32	$\frac{1}{3}$ of 21	$\frac{1}{5}$ of 30
= 4	=	=	=	=	=	=	=	=
F								

$\frac{1}{7}$ of 7	$\frac{1}{8}$ of 24	¼ of 48
=	=	=

$\frac{1}{9}$ of 18	$\frac{1}{5}$ of 40	$\frac{1}{2}$ of 16	$\frac{1}{3}$ of 45	
=	=	=	=	
				.

For these next questions we are not using unit fractions…
To calculate….'Divide by the bottom and times by the top.'…This means that you divide the amount by the denominator and then multiply that by the numerator to get the answer.

1. Would you rather…?	$\frac{3}{8}$ of £48	$\frac{3}{4}$ of £44	$\frac{5}{9}$ of £45
2. Would you rather…?	$\frac{2}{6}$ of £54	$\frac{3}{7}$ of £49	$\frac{4}{12}$ of £60
3. Would you rather…?	$\frac{5}{6}$ of £72	$\frac{8}{10}$ of £70	$\frac{7}{9}$ of £72
4. Would you rather…?	$\frac{1}{4}$ of £2	$\frac{1}{5}$ of £3	$\frac{1}{10}$ of £5
5. Would you rather…?	$\frac{8}{10}$ of £1	$\frac{3}{4}$ of £1	$\frac{2}{8}$ of £2

Decimal Equivalents – Lesson 5

Converting decimals tenths and hundredths to fractions couldn't be easier - all you need is a place value chart! To convert from a decimal into a fraction, we write the number on the place value chart then **read the number off the place value chart**.

0.7=

Ones		tenths
0	.	7

No ones and 7 tenths. So the fraction is... $\frac{7}{10}$!

A. Write these decimals into the place value chart. Read the place value and write the decimal as a fraction. The first question has been completed for you.

Decimal	Place Value Chart			How many tenths?
0.7	Ones		tenths	7 tenths = $\frac{7}{10}$
	0	.	7	
0.3	Ones		tenths	
		.		
zero point two	Ones		tenths	
		.		
0.4	Ones		tenths	
		.		
0.1	Ones		tenths	
		.		
0.9	Ones		tenths	
		.		
zero point eight	Ones		tenths	
		.		

Complete the table by writing the equivalent fraction or decimal.

Fraction	Decimal
$\frac{3}{10}$	
	0.9
	0.2
$\frac{1}{10}$	

Working with hundredths is similar except we need to include the tenths too. There are 10 hundredths in a tenth.

O		t	hundredths
0	.	7	3

We have 73 hundredths - therefore $\frac{73}{100}$

B. Complete the table.

Decimal	Place Value Chart				How many hundredths?
0.73	Ones		tenths	hundredths	73 hundredths = $\frac{73}{100}$
	0	.	7	3	
0.20	Ones		tenths	hundredths	
	0	.			
zero point four six	Ones		tenths	hundredths	
	0	.			
nought point nought 4	Ones		tenths	hundredths	
	0	.			
0.42	Ones		tenths	hundredths	
	0	.			
0.66	Ones		tenths	hundredths	
	0	.			
0.99	Ones		tenths	hundredths	
	0	.			

Complete the table by writing the equivalent fraction or decimal.

Fraction	Decimal
$\frac{54}{100}$	
	0.46
$\frac{2}{100}$	
$\frac{19}{100}$	
	0.82

Decimal Equivalents – Lesson 5 (Continued)

1. Match the decimal numbers to the equivalent fractions.

0.2	$\frac{30}{100}$
0.8	$\frac{8}{100}$
0.3	$\frac{22}{100}$
0.9	$\frac{2}{10}$
0.22	$\frac{33}{100}$
0.08	$\frac{9}{10}$
0.33	$\frac{8}{10}$
0.09	$\frac{9}{100}$

2. Complete the equivalent pairs of fractions and decimals.

$\square = \frac{7}{10}$

$0.01 = \frac{\square}{100}$

$\square = \frac{86}{100}$

$\square = \frac{40}{100}$

$0.5 = \frac{\square}{10}$

$0.07 = \frac{\square}{100}$

$0.6 = \frac{\square}{100}$

$\square = \frac{54}{100}$

0.51 = ———	0.36 = ———	0.08 = ———
0.02 = ———	0.7 = ———	0.29 = ———
0.4 = ———	0.68 = ———	0.79 = ———
0.85 = ———	0.21 = ———	0.32 = ———
0.9 = ———	0.58 = ———	0.11 = ———

Recognising the value of digits in Decimal numbers – Lesson 6

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:

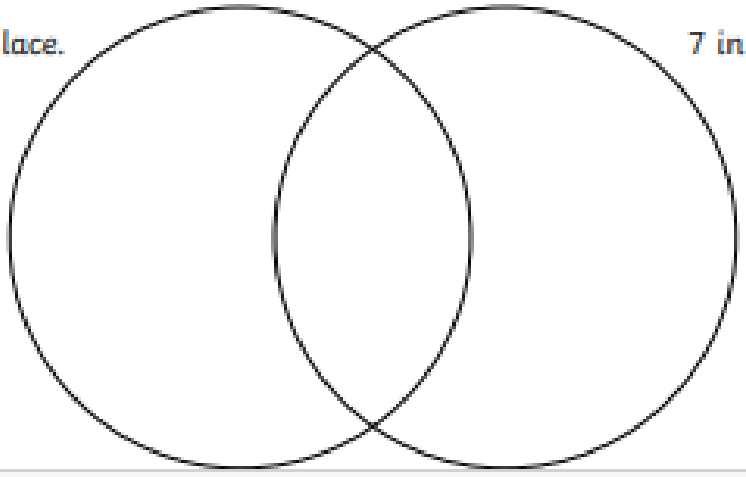
7 in the tenths place	
4 in the hundredths place	
1 in the tenths place	
3 in the hundredths place	
5 in the tenths place	
9 in the hundredths place	
2 in the tenths place and 6 in the hundredth place	

2. Complete this Venn Diagram with these numbers.

0.47 0.37 0.12 0.53 0.87 0.41 0.79 0.19 0.42

4 in the tenths place.

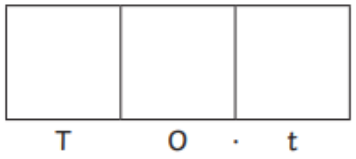
7 in the hundredths place.



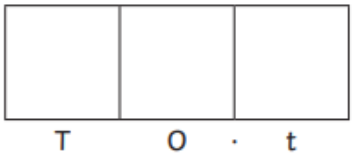
Recognising the value of digits in Decimal numbers – Lesson 6 (continued)

Arrange all the digits to make a decimal number that meets the given criteria.

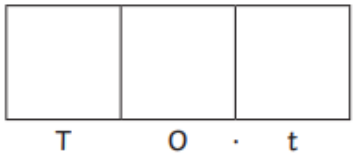
1. Between 23 and 25:
   4, 2, 7



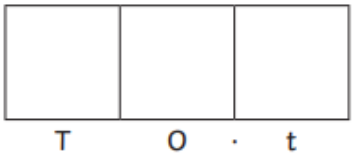
2. Between 35 and 37:
   9, 6, 3



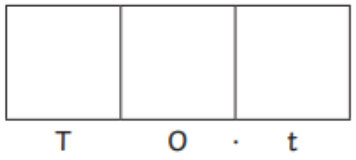
3. Between 19 and 21:
   8, 0, 2



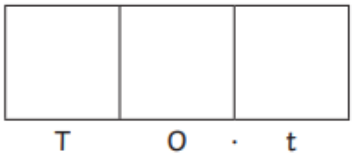
4. Between 63 and 65:
   4, 6, 3



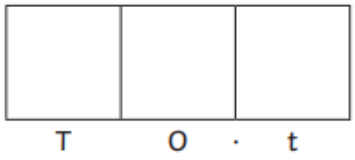
5. Between 80 and 82:
   5, 1, 8



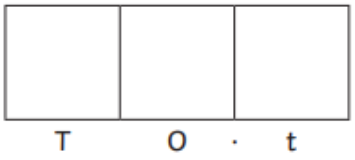
6. Between 25 and 27:
   6, 2, 2



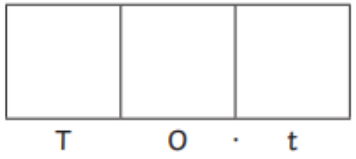
7. Between 12 and 14:
   9, 1, 3



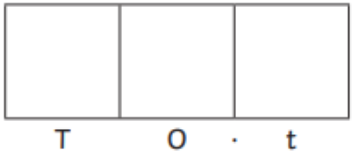
8. Between 86 and 88:
   8, 1, 7



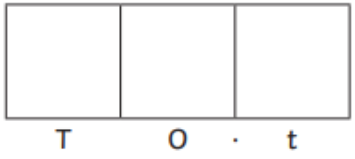
9. Between 44 and 46:
   6, 4, 5



10. Arrange the following digits to make the largest decimal number possible:
    5, 3, 8

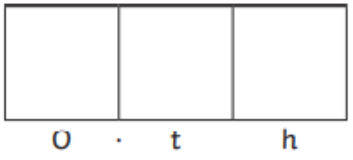


11. Use the same digits to make the smallest decimal number.

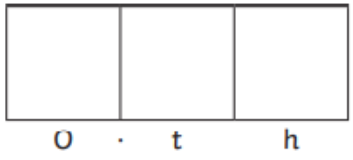


Arrange all the digits to make a 3-digit number with 2-decimal places that meets the given criteria.

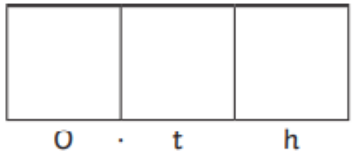
1. Between 4.6 and 4.7:
   7, 4, 6



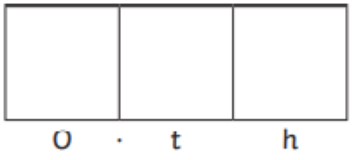
2. Between 3.8 and 4:
   2, 3, 9



3. Between 8.9 and 9.1:
   0, 3, 9



4. Between 7.3 and 7.5:
   4, 7, 5



Ordering and Comparing Decimal numbers – Lesson 7

Order the following decimal numbers from smallest to largest.

1.	0.61	0.58	0.42	0.2	0.81
2.	0.57	0.29	0.14	0.48	0.26
3.	0.67	0.09	0.7	0.28	0.81
4.	0.03	0.86	0.49	0.71	0.94
5.	0.37	0.59	0.53	0.15	0.05
6.	0.82	0.53	0.06	0.44	0.16
7.	0.14	0.27	0.4	0.9	0.35
8.	0.06	0.51	0.05	0.77	0.54
9.	0.75	0.03	0.45	0.56	0.77
10.	0.96	0.05	0.36	0.1	0.93
11.	0.064	0.049	0.069	0.021	0.097
12.	0.037	0.092	0.072	0.053	0.07
13.	0.069	0.026	0.016	0.061	0.079

Ordering and Comparing Decimal numbers – Lesson 7

a) Choose the correct symbol < or > to complete the statements.

1. 14.06 ☐ 0.3
2. 11.6 ☐ 10.08
3. 9.99 ☐ 13.7
4. 17.98 ☐ 17.89
5. 26.65 ☐ 20.01
6. 21.55 ☐ 30.7
7. 19.28 ☐ 25.2
8. 33.05 ☐ 33.50
9. 14.22 ☐ 41.02
10. 16.3 ☐ 8.80

b) Can you put the numbers below in order from smallest to largest?

17.78, 8.56, 11.5, 5.92, 15.90, 22.37, 7.82, 8.65, 28.1, 6.37

c) Use the numbers below to complete the statements.

8.90, 7.26, 11.50, 9.51, 14.6, 3.11

☐ > ☐ ☐ < ☐

☐ > ☐ ☐ < ☐

☐ > ☐ ☐ < ☐

☐ > ☐ ☐ < ☐

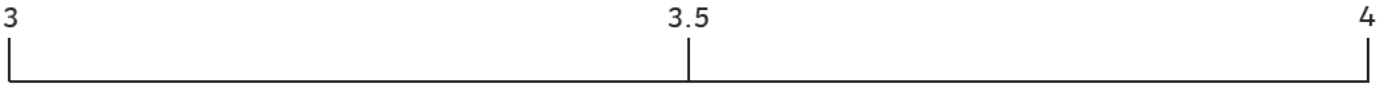
Rounding Decimal numbers (Day 1) – Lesson 8

Example:

Mark 4.6 on the number line, then round it to the nearest whole number.

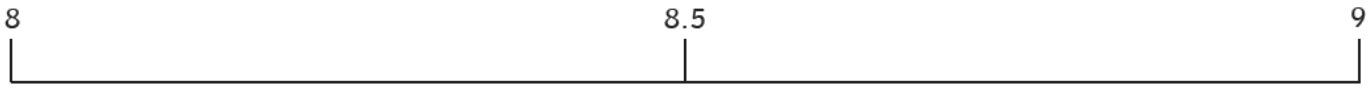
4.6 rounded to the nearest whole number is 5.

1. Mark 3.1 on the number line, then round it to the nearest whole number.



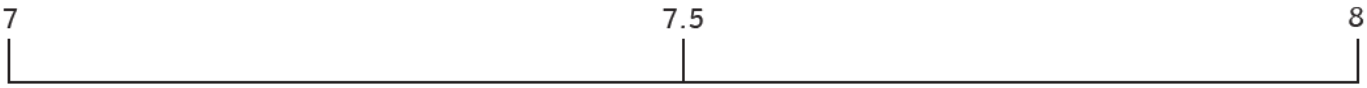
3.1 rounded to the nearest whole number is _____

2. Mark 8.2 on the number line, then round it to the nearest whole number.



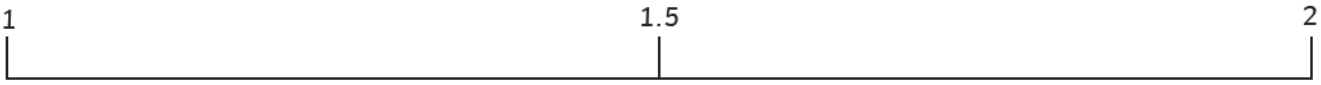
8.2 rounded to the nearest whole number is _____

3. Mark 7.9 on the number line, then round it to the nearest whole number.



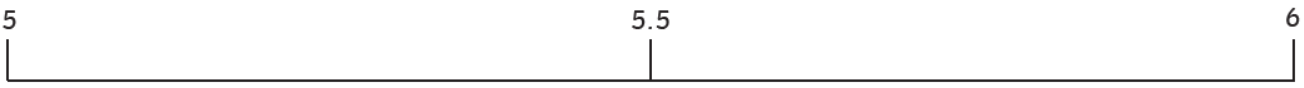
7.9 rounded to the nearest whole number is _____

4. Mark 1.8 on the number line, then round it to the nearest whole number.



1.8 rounded to the nearest whole number is _____

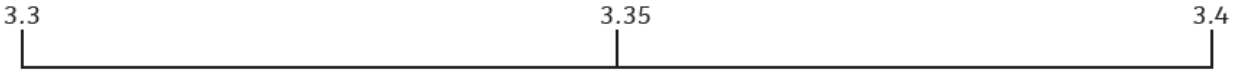
5. Mark 5.4 on the number line, then round it to the nearest whole number.



5.4 rounded to the nearest whole number is _____

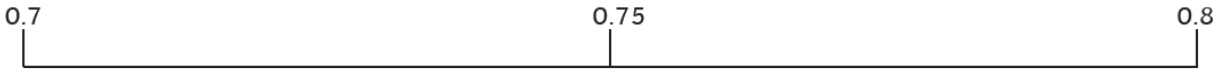
You may wish to add a ghost zero on the end of each decimal number that is positioned at the start and end of each number line to help you place each number.

6. Mark 3.33 on the number line, then round it to the nearest tenth.



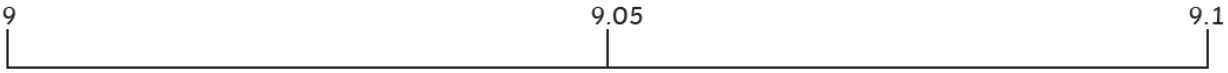
3.33 rounded to the nearest tenth is _____

7. Mark 0.76 on the number line, then round it to the nearest tenth.



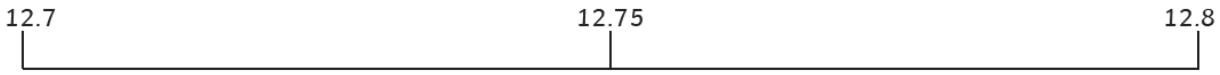
0.76 rounded to the nearest tenth is _____

8. Mark 9.01 on the number line, then round it to the nearest tenth.



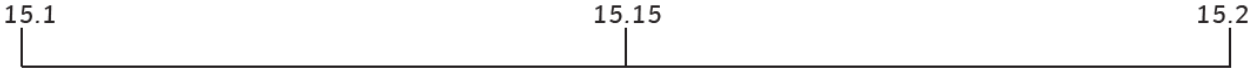
9.01 rounded to the nearest tenth is _____

9. Mark 12.73 on the number line, then round it to the nearest tenth.



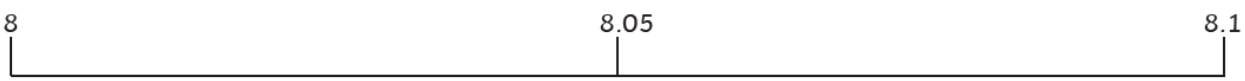
12.73 rounded to the nearest tenth is _____

10. Mark 15.18 on the number line, then round it to the nearest tenth.



15.18 rounded to the nearest tenth is _____

11. Mark 8.09 on the number line, then round it to the nearest tenth.



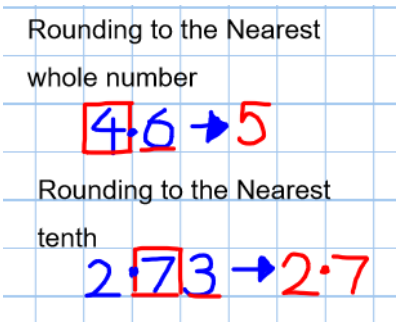
8.09 rounded to the nearest tenth is _____

Rounding Decimal numbers (Day 2) – Lesson 9

Do not forget the rhyme to help you with this…

5 or above give it a shove

4 or below keep it down low



Round these numbers to the nearest whole

1) 3.9 → _____	2) 2.4 → _____	3) 13.7 → _____
4) 5.6 → _____	5) 8.5 → _____	6) 12.3 → _____
7) 9.8 → _____	8) 11.9 → _____	9) 13.4 → _____
10) 24.1 → _____	11) 38.5 → _____	12) 18.3 → _____
13) 46.6 → _____	14) 34.2 → _____	15) 39.4 → _____
16) 6.37 → _____	17) 4.44 → _____	18) 1.5 → _____
19) 1.03 → _____	20) 9.17 → _____	21) 7.96 → _____

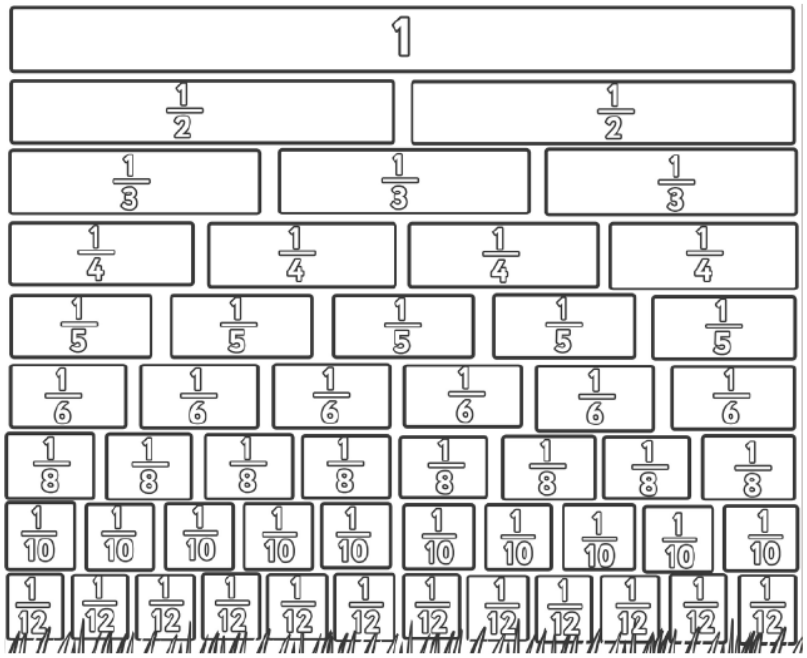
Round these numbers to the nearest tenth

1) 1.27 → _____	2) 3.73 → _____	3) 0.24 → _____
4) 8.66 → _____	5) 2.06 → _____	6) 12.86 → _____
7) 3.58 → _____	8) 7.72 → _____	9) 15.36 → _____
10) 8.74 → _____	11) 9.16 → _____	12) 4.47 → _____
13) 7.52 → _____	14) 3.04 → _____	15) 6.84 → _____
16) 4.36 → _____	17) 7.5 → _____	18) 9.47 → _____
19) 0.82 → _____	20) 0.28 → _____	21) 1.05 → _____

Fractions and Decimals Assessment – Lesson 10

Over the next few pages are questions linked to the work you have covered in this 2-week pack. Use everything you have learnt about fractions and decimals, to answer these questions. You can look back at work completed in this pack if you find any questions tricky.

a) Use the fraction wall to find equivalent fractions:



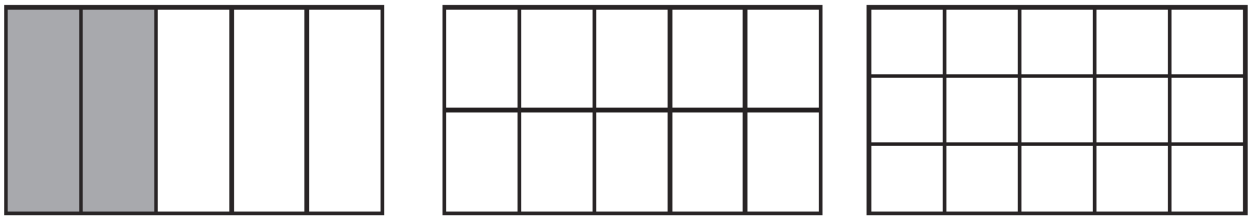
$\frac{3}{4} = \frac{\quad}{8}$

$\frac{\quad}{12} = \frac{4}{6}$

$\frac{3}{\quad} = \frac{6}{10}$

$\frac{2}{3} = \frac{4}{\quad} = \frac{\quad}{12}$

b) Shade in the shapes to show $\frac{2}{5}$ on each shape and write the equivalent fraction underneath shape 2 and shape 3:



$\frac{2}{5}$

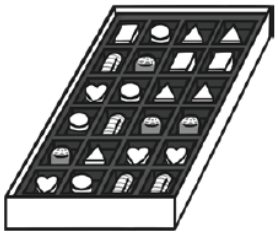
2. Count up and down in hundredths.

Complete these sequences of numbers:

2.47	2.48	2.49			
$\frac{38}{100}$	$\frac{39}{100}$	$\frac{40}{100}$			
5.32	5.31	5.30			
$\frac{75}{100}$	$\frac{74}{100}$	$\frac{73}{100}$			

3. Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.

a) Dipali buys her Mum a box of chocolates. There are 24 chocolates in the box. Mum eats $\frac{1}{4}$ of the chocolates as well as giving $\frac{1}{3}$ of the chocolates to her family. How many chocolates are left? Show your working out.



b) A restaurant sells milkshakes in two sizes. A small milkshake contains 400ml and a large milkshake contains $\frac{3}{10}$ more.

i. How much does a large milkshake contain? Show your working out.

ii. If Lucy drinks $\frac{3}{4}$ of a small milkshake and Alfie $\frac{1}{2}$ of a large milkshake who drinks the most? Show your working out.

4. Add and subtract fractions with the same denominator.

$\frac{2}{5} + \frac{1}{5} = \square$ $\quad\quad$ $\frac{1}{6} + \frac{4}{6} = \square$

$\frac{6}{7} - \frac{3}{7} = \square$ $\quad\quad$ $\frac{8}{9} - \frac{2}{9} = \square$

5. Recognise and write decimal equivalents of any number of tenths or hundreds.

Fill in the missing boxes:

fraction	decimal
$\frac{3}{10}$	
	0.5
$\frac{6}{100}$	
	0.08
$\frac{23}{100}$	
	1.38

6. Recognise and write decimal equivalents to ¼ , ½ , ¾.

Draw lines to match each fraction to its equivalent decimal:

$\frac{1}{4}$	0.5
$\frac{1}{2}$	0.25
$\frac{3}{4}$	0.75

7. Find the effect of dividing a one or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.

Complete the table:

number	divide by	answer	Underlined digit's new value (ones, tenths, hundredths)
7̲2	÷10	7.2	7 ones
5̲6	÷10		
8̲	÷10		
1̲3	÷100		
6̲	÷100		

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

Round each of the following decimals to the nearest whole number:

6.8	
12.4	
9.5	
18.3	
128.7	

9. Compare numbers with the same number of decimal places up to 2 decimal places.

Use the symbols < or > to compare these decimals:

1.8		2.4
16.03		16.31
5.21		4.78
11.09		11.12
356.8		324.1
24.18		24.22

10. Solve simple measure and money problems involving fractions and decimals to 2 decimal places.

Nina is training for a running race, these are the distances that she runs one week:

Monday	2.15km
Tuesday	2.23km
Wednesday	3.52km
Thursday	rest day
Friday	2.93km
Saturday	3.22km
Sunday	3.65km

a) How far did Nina run on Saturday and Sunday? Show your working out.

b) How much farther did Nina run on Saturday than on Tuesday? Show your working out.

c) How much farther would Nina need to run to total 20km? Show your working out.

Theo's mum has offered to help his savings by adding a tenth of what he saves each month to his savings.

Here is what he saves for the first 6 months of the year:

January	£2.50
February	£3.00
March	£4.00
April	£1.80
May	£2.20
June	£6.00

d) Including the tenth extra, how much money did Theo save in January and February together? Show your working out.

e) How much money did Theo save, with the tenth extra from January to June? Show your working out.

Answers

When you have completed your work each day – check/mark your answers to see how you have performed.

Equivalent Fractions – Lesson 1

1) $\frac{1}{2} = \frac{3}{6}$ **2)** $\frac{1}{4} = \frac{2}{8}$ **3)** $\frac{9}{12} = \frac{3}{4}$

4) $\frac{3}{4} = \frac{9}{12}$ **5)** $\frac{6}{8} = \frac{3}{4}$ **6)** $\frac{4}{12} = \frac{2}{6}$

7) $\frac{1}{6} = \frac{2}{12}$ **8)** $\frac{3}{6} = \frac{2}{4}$ **9)** $\frac{2}{3} = \frac{4}{6}$

10) $\frac{10}{12} = \frac{5}{6}$ **11)** $\frac{9}{12} = \frac{3}{4}$ **12)** $\frac{4}{6} = \frac{8}{12}$

Question	Answer
1	2
2	2
3	2
4	2
5	6
6	2
7	2
8	4
9	6
10	4
11	14
12	6

Question	Answer
1	2
2	2
3	2
4	2
5	6
6	2
7	2
8	4
9	6
10	4
11	14
12	6

Question	Answer
13	8
14	10
15	38
16	12
17	10
18	4
19	6
20	8
21	10
22	14
23	36
24	22

[Simplifying Fractions – Lesson 2]

Simplifying Fractions Answers

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

1. $\frac{8}{16} = \frac{1}{2}$

2. $\frac{7}{21} = \frac{1}{3}$

3. $\frac{9}{15} = \frac{3}{5}$

4. $\frac{2}{10} = \frac{1}{5}$

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

6. $\frac{5}{20} = \frac{1}{4}$

7. $\frac{8}{20} = \frac{2}{5}$

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

9. $\frac{12}{24} = \frac{1}{2}$

10. $\frac{10}{15} = \frac{2}{3}$

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

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

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

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

15. $\frac{6}{18} = \frac{1}{3}$

16. $\frac{10}{30} = \frac{1}{3}$

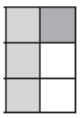
17. $\frac{10}{25} = \frac{2}{5}$

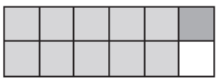
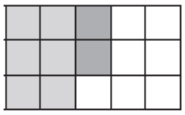
18. $\frac{10}{16} = \frac{5}{8}$

Adding & Subtracting Fractions – Lesson 3

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

1. $\frac{4}{5} - \frac{1}{5} = \frac{3}{5}$
2. $\frac{2}{3} - \frac{1}{3} = \frac{1}{3}$
3. $\frac{1}{3} - \frac{1}{3} = \mathbf{0}$
4. $\frac{2}{4} - \frac{1}{4} = \frac{1}{4}$

1. $\frac{1}{3} + \frac{1}{6} = \frac{3}{6}$ 
2. $\frac{2}{3} + \frac{1}{6} = \frac{5}{6}$ 
3. $\frac{1}{2} + \frac{1}{6} = \frac{4}{6}$ 
4. $\frac{2}{5} + \frac{3}{10} = \frac{7}{10}$ 

5. $\frac{5}{6} + \frac{1}{12} = \frac{11}{12}$ 
6. $\frac{1}{4} + \frac{5}{12} = \frac{8}{12}$ 
7. $\frac{2}{5} + \frac{2}{15} = \frac{8}{15}$ 
8. $\frac{1}{4} + \frac{3}{8} = \frac{5}{8}$ 

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

$\frac{1}{2} + \frac{1}{4} = \boxed{\frac{3}{4}}$

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

$\frac{1}{3} + \frac{1}{6} = \boxed{\frac{1}{2}}$

$\frac{1}{8} + \frac{1}{2} = \boxed{\frac{5}{8}}$

$\frac{1}{4} + \frac{5}{8} = \boxed{\frac{7}{8}}$

$\frac{1}{2} + \frac{3}{8} = \boxed{\frac{7}{8}}$

$\frac{1}{10} + \frac{4}{5} = \boxed{\frac{9}{10}}$

$\frac{1}{5} + \frac{7}{10} = \boxed{\frac{9}{10}}$

$\frac{5}{7} + \frac{3}{14} = \boxed{\frac{13}{14}}$

$\frac{1}{14} + \frac{6}{7} = \boxed{\frac{13}{14}}$

$\frac{2}{7} + \frac{5}{14} = \boxed{\frac{9}{14}}$

$\frac{3}{8} + \frac{1}{16} = \boxed{\frac{7}{16}}$

$\frac{5}{16} + \frac{5}{8} = \boxed{\frac{15}{16}}$

Finding Fractions of amounts – Lesson 4

1) ½ of 24 = 12
2) ¼ of 8 = 2
3) $^1/_3$ of 12 = 4
4) $^1/_5$ of 10 = 2
5) $^1/_3$ of 18 = 6
6) ¼ of 20 = 5
7) $^1/_5$ of 15 = 3
8) $^1/_7$ of 14 = 2
9) $^1/_{10}$ of 10 = 1
10) $^1/_3$ of 21 = 7
11) ¼ of 24 = 6
12) $^1/_8$ of 24 = 3
13) $^1/_9$ of 27 = 3
14) $^1/_5$ of 25 = 5
15) $^1/_8$ of 32 = 4
16) $^1/_{12}$ of 12 = 1
17) $^1/_6$ of 30 = 5
18) ½ of 50 = 25
19) ¼ of 36 = 9
20) $^1/_7$ of 28 = 4
21) $^1/_9$ of 36 = 4
22) $^1/_3$ of 39 = 13
23) $^1/_5$ of 40 = 8
24) $^1/_8$ of 80 = 10
25) $^1/_6$ of 48 = 8
26) $^1/_9$ of 81 = 9
27) $^1/_7$ of 56 = 8
28) $^1/_8$ of 64 = 8

CODE GRID											
4	7	3	8	2	1	5	10	6	7	12	15
F	T	R	O	C	A	T	I	S	N	E	L

½ of 8	¼ of 12	$^1/_6$ of 6	$^1/_8$ of 16	$^1/_3$ of 15	$^1/_5$ of 50	¼ of 32	$^1/_3$ of 21	$^1/_5$ of 30
= 4	= 3	= 1	= 2	= 5	= 10	= 8	= 7	= 6
F	R	A	C	T	I	O	N	S

$^1/_7$ of 7	$^1/_8$ of 24	¼ of 48
= 1	= 3	= 12
A	R	E

$^1/_9$ of 18	$^1/_5$ of 40	$^1/_2$ of 16	$^1/_3$ of 45	
= 2	= 8	= 8	= 15	
C	O	O	L	·

1. Would you rather...? $\frac{3}{8}$ of £48 = **£18** (**$\frac{3}{4}$ of £44 = £33**) $\frac{5}{9}$ of £45 = **£25**
2. Would you rather...? $\frac{2}{6}$ of £54 = **£18** (**$\frac{3}{7}$ of £49 = £21**) $\frac{4}{12}$ of £60 = **£20**
3. Would you rather...? (**$\frac{5}{6}$ of £72 = £60**) $\frac{8}{10}$ of £70 = **£56** $\frac{7}{9}$ of £72 = **£56**
4. Would you rather...? $\frac{1}{4}$ of £2 = **50p** (**$\frac{1}{5}$ of £3 = 60p**) $\frac{1}{10}$ of £5 = **50p**
5. Would you rather...? (**$\frac{8}{10}$ of £1 = 80p**) $\frac{3}{4}$ of £1 = **75p** $\frac{2}{8}$ of £2 = **50p**

Decimal Equivalents – Lesson 5

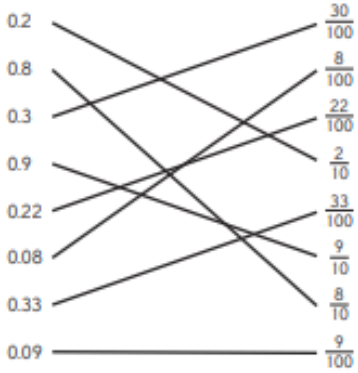
Decimal	Place Value Chart			How many tenths?
0.7	Ones		tenths	**7 tenths = $\frac{7}{10}$**
	0	.	7	
0.3	Ones		tenths	**3 tenths = $\frac{3}{10}$**
		.		
zero point two	Ones		tenths	**2 tenths = $\frac{2}{10}$**
		.		
0.4	Ones		tenths	**4 tenths = $\frac{4}{10}$**
		.		
0.1	Ones		tenths	**1 tenth = $\frac{1}{10}$**
		.		
0.9	Ones		tenths	**9 tenths = $\frac{9}{10}$**
		.		
zero point eight	Ones		tenths	**8 tenths = $\frac{8}{10}$**
		.		

Decimal	Place Value Chart				How many hundredths?
0.73	Ones		tenths	hundredths	**73 hundredths = $\frac{73}{100}$**
	0	.	7	3	
0.20	Ones		tenths	hundredths	**20 hundredths = $\frac{20}{100}$ or $\frac{2}{10}$**
	0	.			
zero point four six	Ones		tenths	hundredths	**46 hundredths = $\frac{46}{100}$**
	0	.			
nought point nought 4	Ones		tenths	hundredths	**4 hundredths = $\frac{4}{100}$**
	0	.			
0.42	Ones		tenths	hundredths	**42 hundredths = $\frac{42}{100}$**
	0	.			
0.66	Ones		tenths	hundredths	**66 hundredths = $\frac{66}{100}$**
	0	.			
0.99	Ones		tenths	hundredths	**99 hundredths = $\frac{99}{100}$**
	0	.			

Fraction	Decimal
$\frac{3}{10}$	**0.3**
$\frac{9}{10}$	0.9
$\frac{2}{10}$ or $\frac{1}{5}$	0.2
$\frac{1}{10}$	**0.1**

Fraction	Decimal
$\frac{54}{100}$	**0.54**
$\frac{46}{100}$	0.46
$\frac{2}{100}$	**0.02**
$\frac{19}{100}$	**0.19**
$\frac{82}{100}$	0.82

1. Match the decimal numbers to the equivalent fractions.



2. Complete the equivalent pairs of fractions and decimals.

0.7 = $\frac{7}{10}$

0.01 = $\frac{1}{100}$

0.86 = $\frac{86}{100}$

0.4 = $\frac{40}{100}$

0.5 = $\frac{5}{10}$

0.07 = $\frac{7}{100}$

0.6 = $\frac{60}{100}$

0.54 = $\frac{54}{100}$

0.51 = **$\frac{51}{100}$**	0.36 = **$\frac{36}{100}$**	0.08 = **$\frac{8}{100}$**
0.02 = **$\frac{2}{100}$**	0.7 = **$\frac{7}{10}$**	0.29 = **$\frac{29}{100}$**
0.4 = **$\frac{4}{10}$**	0.68 = **$\frac{68}{100}$**	0.79 = **$\frac{79}{100}$**
0.85 = **$\frac{85}{100}$**	0.21 = **$\frac{21}{100}$**	0.32 = **$\frac{32}{100}$**
0.9 = **$\frac{9}{10}$**	0.58 = **$\frac{58}{100}$**	0.11 = **$\frac{11}{100}$**

Recognising the value of digits in Decimal numbers – Lesson 6

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

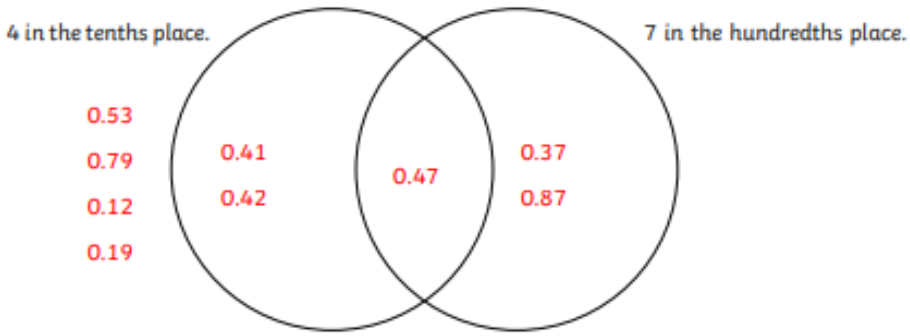
0.14	0.4	0.56	0.63	0.41	0.42	0.36	0.87
0.24	0.08	0.13	0.51	0.96	0.73	0.59	0.86
0.77	0.1	0.12	0.6	0.17	0.74	0.29	0.34
0.67	0.01	0.22	0.69	0.55	0.61	0.26	0.33
0.28	0.79	0.03	0.54	0.61	0.09	0.66	0.5
0.07	0.52	0.19	0.72	0.56	0.42	0.78	0.05

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

7 in the tenths place	0.77, 0.79, 0.72, 0.73, 0.74, 0.78
4 in the hundredths place	0.14, 0.24, 0.54, 0.74, 0.34
1 in the tenths place	0.14, 0.1, 0.13, 0.12, 0.17, 0.19
3 in the hundredths place	0.13, 0.03, 0.63, 0.73, 0.33
5 in the tenths place	0.5, 0.52, 0.56, 0.54, 0.55, 0.56, 0.59
9 in the hundredths place	0.79, 0.19, 0.69, 0.09, 0.29, 0.59,
2 in the tenths place and 6 in the hundredth place	0.26

2. Complete this Venn Diagram with these numbers.

0.47 0.37 0.12 0.53 0.87 0.41 0.79 0.19 0.42



★

1. 24.7
2. 36.9
3. 20.8
4. 64.3
5. 81.5
6. 26.2
7. 13.9
8. 87.1
9. 45.6
10. 85.3
11. 35.8

★★

1. 4.67
2. 3.92
3. 9.03
4. 7.45

Ordering & Comparing Decimal numbers – Lesson 7

1. 0.61 0.58 0.42 0.2 0.81

0.2	**0.42**	**0.58**	**0.61**	**0.81**

2. 0.57 0.29 0.14 0.48 0.26

0.14	**0.26**	**0.29**	**0.48**	**0.57**

3. 0.67 0.09 0.7 0.28 0.81

0.09	**0.28**	**0.67**	**0.7**	**0.81**

4. 0.03 0.86 0.49 0.71 0.94

0.03	**0.49**	**0.71**	**0.86**	**0.94**

5. 0.37 0.59 0.53 0.15 0.05

0.05	**0.15**	**0.37**	**0.53**	**0.59**

6. 0.82 0.53 0.06 0.44 0.16

0.06	**0.16**	**0.44**	**0.53**	**0.82**

7. 0.14 0.27 0.4 0.9 0.35

0.14	**0.27**	**0.35**	**0.4**	**0.9**

8. 0.06 0.51 0.05 0.77 0.54

0.05	**0.06**	**0.51**	**0.54**	**0.77**

9. 0.75 0.03 0.45 0.56 0.77

0.03	**0.45**	**0.56**	**0.75**	**0.77**

10. 0.96 0.05 0.36 0.1 0.93

0.05	**0.1**	**0.36**	**0.93**	**0.96**

11. 0.064 0.049 0.069 0.021 0.097

0.021	**0.049**	**0.064**	**0.069**	**0.097**

12. 0.037 0.092 0.072 0.053 0.07

0.037	**0.053**	**0.07**	**0.072**	**0.092**

13. 0.069 0.026 0.016 0.061 0.079

0.016	**0.026**	**0.061**	**0.069**	**0.079**

a) Choose the correct symbol < or > to complete the statements.

1. 14.06 [>] 0.3
2. 11.6 [>] 10.08
3. 9.99 [<] 13.7
4. 17.98 [>] 17.89
5. 26.65 [>] 20.01
6. 21.55 [<] 30.7
7. 19.28 [<] 25.2
8. 33.05 [<] 33.50
9. 14.22 [<] 41.02
10. 16.3 [>] 8.80

b) Can you put the numbers below in order from smallest to largest?

5.92, 6.37, 7.82, 8.56, 8.65, 11.5, 15.90, 17.78, 22.37, 28.1

c) Use the numbers below to complete the statements.

8.90, 7.26, 11.50, 9.51, 14.6, 3.11

[11.50] > [8.90]
[11.50] > [9.51]
[11.50] > [7.82]
[11.50] > [3.11]

[3.11] < [9.51]
[3.11] < [7.26]
[7.26] < [11.50]
[11.50] < [14.6]

Rounding Decimal numbers – Lesson 8 and 9

1. 3
2. 8
3. 8
4. 2
5. 5
6. 3.3
7. 0.8
8. 9 (allow 9.0)
9. 12.7
10. 15.2
11. 8.1

Round these numbers to the nearest whole

1) 3.9 → 4	2) 2.4 → 2	3) 13.7 → 14
4) 5.6 → 6	5) 8.5 → 9	6) 12.3 → 12
7) 9.8 → 10	8) 11.9 → 12	9) 13.4 → 13
10) 24.1 → 24	11) 38.5 → 39	12) 18.3 → 18
13) 46.6 → 47	14) 34.2 → 34	15) 39.4 → 39
16) 6.37 → 6	17) 4.44 → 4	18) 1.5 → 2
19) 1.03 → 1	20) 9.17 → 9	21) 7.96 → 8

Round these numbers to the nearest tenth

1) 1.27 → 1.3	2) 3.73 → 3.7	3) 0.24 → 0.2
4) 8.66 → 8.7	5) 2.06 → 2.1	6) 12.86 → 12.9
7) 3.58 → 3.6	8) 7.72 → 7.7	9) 15.36 → 15.4
10) 8.74 → 8.7	11) 9.16 → 9.2	12) 4.47 → 4.5
13) 7.52 → 7.5	14) 3.04 → 3.0	15) 6.84 → 6.8
16) 4.36 → 4.4	17) 7.5 → 7.5	18) 9.47 → 9.5
19) 0.82 → 0.8	20) 0.28 → 0.3	21) 1.05 → 1.1

Fractions and Decimals Assessment – Lesson 10

question	answer	marks	notes
1. Recognise and show, using diagrams, families of common equivalent fractions.			
a	6/ 8 8/ 12 3/ 5 4/ 6 8/ 12	4	
b	 4/10  6/15	2	1 mark each
2. Count up and down in hundredths.			
	2.47 2.48 2.49 2.5 2.51 2.52 48/100 49/100 50/100 51/100 52/100 53/100 5.32 5.31 5.30 5.29 5.28 5.27 71/100 70/100 69/100 72/100 71/100 78/100	4	accept 2.50
3. Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.			
a	10 left	2	If correct answer 2 marks. If working out shows a sensible way of working out, but the answer is incorrect award 1 mark
b i.	520ml	2	
b ii.	Lucy	2	
4. Add and subtract fractions with the same denominator.			
	2/5 + 1/5 = 3/5 1/6 + 4/6 = 5/6 6/7 – 3/7 = 3/7 8/9 – 2/9 = 6/9	4	

question	answer	marks	notes
5. Recognise and write decimal equivalents of any number of tenths or hundreds.			
	3/10 — 0.3 or .3 or 0.30 5/10 or 1/2 — 0.5 6/100 — 0.06 or .06 8/100 — 0.08 23/100 — 0.23 or .23 1 38/100 — 1.38	6	Accept equivalent fraction forms.
6. Recognise and write decimal equivalents to 1/4, 1/2, 3/4.			
	1/4 — 0.5 1/2 — 0.25 3/4 — 0.75	1	
7. Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.			
	56 +10 5.6 6/10 or 6 tenths 8 +10 0.8 or .8 8/10 or 8 tenths 13 +100 0.13 or .13 1/10 or 1 tenths 6 +100 0.06 or .06 6/100 or 6 hundredths	4	
8. Round decimals with 1 decimal place to the nearest whole number.			
	6.8 — 7 12.4 — 12 9.5 — 10 18.3 — 18 128.7 — 129	5	

<table>
<tr><th>question</th><th>answer</th><th>marks</th><th>notes</th></tr>
<tr><td colspan="4">9. Compare numbers with the same number of decimal places up to 2 decimal places.</td></tr>
<tr><td></td><td>
<table>
<tr><td>1.8</td><td><</td><td>2.4</td></tr>
<tr><td>16.03</td><td><</td><td>16.31</td></tr>
<tr><td>5.21</td><td>></td><td>4.78</td></tr>
<tr><td>11.09</td><td><</td><td>11.12</td></tr>
<tr><td>356.8</td><td>></td><td>324.1</td></tr>
<tr><td>24.18</td><td><</td><td>24.22</td></tr>
</table>
</td><td>6</td><td></td></tr>
<tr><td colspan="4">10. Solve simple measure and money problems involving fractions and decimals to 2 decimal places.</td></tr>
<tr><td>a</td><td>6.87km</td><td>1</td><td></td></tr>
<tr><td>b</td><td>0.99km</td><td>1</td><td></td></tr>
<tr><td>c</td><td>2.3km</td><td>2</td><td>Accept 2.30 km. If correct answer 2 marks. If working out shows a sensible way of working out, but the answer is incorrect award 1 mark</td></tr>
<tr><td>d</td><td>£6.05</td><td>2</td><td rowspan="2">If correct answer 2 marks. If working out shows a sensible way of working out, but the answer is incorrect award 1 mark</td></tr>
<tr><td>e</td><td>£21.45</td><td>2</td></tr>
<tr><td colspan="2"></td><td>Total 50</td><td></td></tr>
</table>