



W.C. 11th May

<https://www.bbc.co.uk/bitesize/tags/zncsscw/year-6-lessons/1>

Maths

Dear parents/carers, there is no expectation to complete all the work or print worksheets off - children can work on paper if they want to write it down.

Thanks for all your hard work.

Also there is work on **StudyLadder** that we know the children love to use. You can email us on s83year6@st-annes.solihull.sch.uk for the password if your child has forgotten their login.

Purple Mash Look out for the game 'Dividers': Target each number with the correct divider. Divide numbers before they reach your calculator by firing factors at them. There are 3 different challenges to choose.

Also check out the games 'Fraction Wall' and '@Funky Platform'. Enjoy!

After watching the videos and having a go at the practice activities, have a go at these activities. Depending on your confidence choose Mild, Medium or Spicy.

Extensions – You may wish to deepen your learning by looking at the Collins Worksheets provided by the BBC too.



Monday

<https://www.bbc.co.uk/bitesize/tags/zncsscw/year-6-lessons/1>

<https://whiterosemaths.com/homelearning/year-6/>

Multiplying fractions and mixed numbers by integers

Mild

When we multiply by an integer we turn the whole number into a fraction by placing one in the denominator

$$\frac{1}{5} \times 2$$

$$\frac{1}{5} \times \frac{2}{1}$$

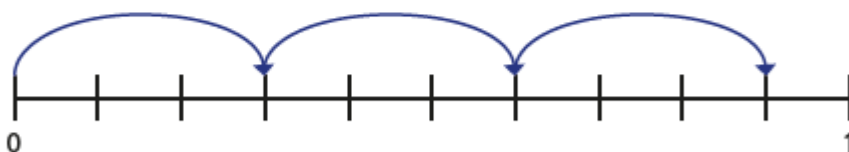
1 Complete the calculations.

a)

$$\frac{2}{7} \times 2 = \boxed{}$$

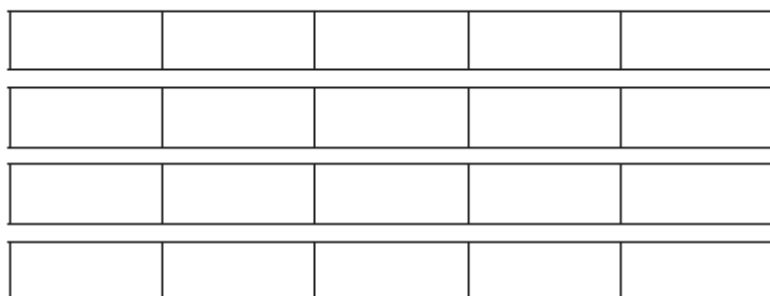


b)



$$3 \times \frac{3}{10} = \boxed{}$$

2 a) Shade the bar models to show $\frac{2}{5} \times 4$



b) Complete the multiplication.

$$\frac{2}{5} \times 4 = \boxed{}$$

Extra practice

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

2. $4 \times \frac{2}{9}$

3. $\frac{3}{7} \times 2$

4. $4 \times \frac{3}{13}$

5. $3 \times \frac{4}{17}$

6. $\frac{2}{11} \times 5$

7. $3 \times \frac{3}{20}$

8. $7 \times \frac{3}{23}$

Medium

Complete the calculations.

a) $\frac{1}{3} \times 1 =$

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

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

$\frac{3}{4} \times 2 =$

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

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

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

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

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

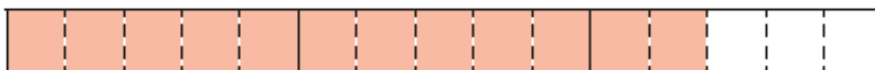
$\frac{3}{4} \times 5 =$

$\frac{1}{3} \times 6 =$

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

Complete the multiplication.

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



Extra practice Give the answer in its simplest form

1. $3 \times \frac{1}{9}$

2. $\frac{1}{16} \times 4$

3. $2 \times \frac{3}{8}$

4. $5 \times \frac{2}{15}$

5. $3 \times \frac{2}{9}$

6. $5 \times \frac{3}{15}$

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

8. $\frac{3}{28} \times 7$

Spicy

Give the answer in its simplest form

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

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

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

4. $5 \times 2\frac{2}{7}$

5. $4\frac{1}{3} \times 3$

6. $5 \times 3\frac{7}{8}$

7. $7 \times 8\frac{3}{8}$

8. $6 \times 4\frac{5}{9}$

Match the calculations.

$$\frac{2}{3} + \frac{2}{3}$$

$$\frac{1}{2} \times 6$$

$$\frac{1}{4} \times 24$$

$$18 \times \frac{1}{4}$$

$$\frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4}$$

$$\frac{1}{6} \times 10$$

$$\frac{5}{12} \times 4$$

$$12 \times \frac{1}{2}$$

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

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

Write each answer as a mixed number in its simplest form.

a) $1\frac{1}{5} \times 2 =$

d) $2\frac{2}{5} \times 5 =$

b) $2\frac{1}{6} \times 3 =$

e) $7 \times 3\frac{1}{2} =$

c) $2\frac{2}{5} \times 4 =$

f) $\frac{11}{15} \times 7 =$

Fill in the missing numbers.

a) $2\frac{\boxed{}}{7} \times 3 = 6\frac{6}{7}$

b) $2\frac{\boxed{}}{8} \times 3 = 7\frac{1}{2}$

Tommy's dog eats $3\frac{1}{2}$ tins of food a week.

How many tins does she eat in a year?

Tuesday

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Multiply fractions by fractions

Step 1.

Remember that $\times$ is 'of'. Rewrite $\frac{3}{4} \times \frac{3}{5}$ as $\frac{3}{4}$ of $\frac{3}{5}$

Step 2.

Draw or imagine a diagram of $\frac{3}{5}$



Step 3.

Find $\frac{3}{4}$ on $\frac{3}{5}$ of the diagram.



Step 4.

Look to see what $\frac{3}{4}$ of $\frac{3}{5}$ is. $\frac{3}{4} \times \frac{3}{5} =$

- Things to remember:
- Step 1: **Multiply** the numerators (the top numbers)
- Step 2: **Multiply** the denominators (the bottom numbers)
- Step 3: Make a **fraction** with the number from Step 1 on top and Step 2 on the bottom.
- Step 4: See if you can simplify.



Mild

$$1) \quad \frac{1}{8} \times \frac{4}{10} =$$

$$5) \quad \frac{1}{4} \times \frac{5}{9} =$$

$$2) \quad \frac{1}{2} \times \frac{1}{8} =$$

$$6) \quad \frac{1}{2} \times \frac{2}{3} =$$

$$3) \quad \frac{3}{4} \times \frac{1}{2} =$$

$$7) \quad \frac{1}{3} \times \frac{1}{6} =$$

$$4) \quad \frac{4}{7} \times \frac{2}{8} =$$

$$8) \quad \frac{3}{4} \times \frac{1}{3} =$$

Fill in the missing numbers so that the calculation below makes sense.

$$\frac{\boxed{}}{4} \times \frac{9}{\boxed{}} = \frac{27}{48}$$

5a. Stacy has been trying to find pairs of proper fractions which multiply together to make the answer below.

$$\frac{?}{?} \times \frac{?}{?} = \frac{12}{30}$$

She has found 3 pairs. What could her pairs be?

6a. Rupert has been multiplying fractions, but he has found the wrong answer.

$$\frac{7}{8} \times \frac{3}{5} = \frac{24}{40}$$

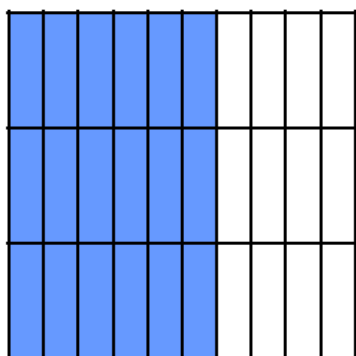
What mistake has he made?

What should the answer be?

Medium

5a. What is the answer shown by the diagram?

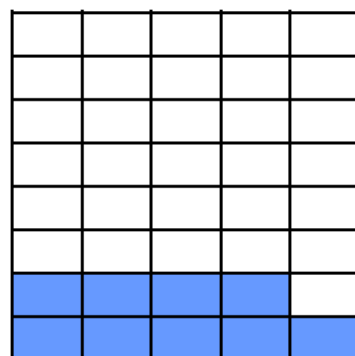
$$\frac{2}{3} \times \frac{9}{10} =$$



^

5b. What is the answer shown by the diagram?

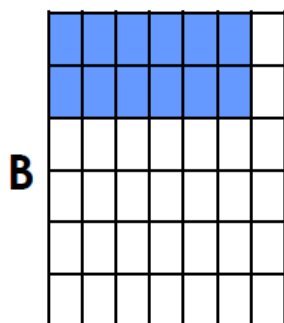
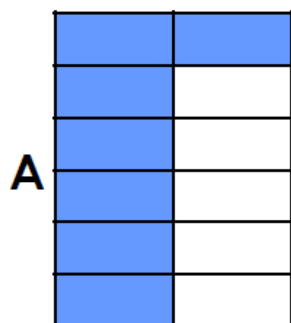
$$\frac{3}{8} \times \frac{3}{5} =$$



^

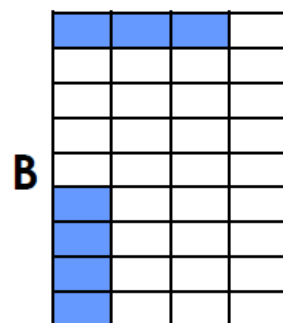
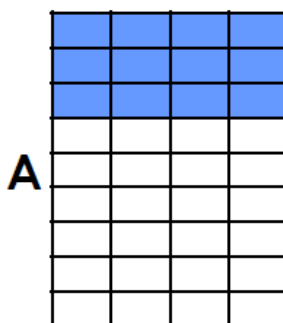
6a. Which diagram correctly represents the answer to the calculation below?

What is $\frac{2}{6}$ multiplied by $\frac{6}{7}$?



6b. Which diagram correctly represents the answer to the calculation below?

What is $\frac{4}{9}$ multiplied by $\frac{3}{4}$?



7a. Work out the calculation below. Give the answer in its simplest form.

What is $\frac{4}{5}$ multiplied by $\frac{5}{12}$?

7b. Work out the calculation below. Give the answer in its simplest form.

What is $\frac{6}{11}$ multiplied by $\frac{3}{8}$?

8a. Fill in the missing numbers so that the calculation below makes sense.

$$\frac{\boxed{}}{11} \times \frac{2}{\boxed{}} = \frac{18}{44}$$

8b. Fill in the missing numbers so that the calculation below makes sense.

$$\frac{2}{\boxed{}} \times \frac{\boxed{}}{7} = \frac{12}{21}$$

Spicy

Complete the calculations.

a) $\frac{1}{4} \times \frac{1}{5} = \boxed{}$

e) $\frac{3}{4} \times \frac{1}{5} = \boxed{}$

b) $\frac{1}{5} \times \frac{1}{6} = \boxed{}$

f) $\frac{2}{5} \times \frac{5}{6} = \boxed{}$

c) $\boxed{} = \frac{1}{7} \times \frac{1}{8}$

g) $\frac{5}{7} \times \frac{5}{8} = \boxed{}$

d) $\frac{1}{8} \times \frac{1}{9} \times \frac{1}{10} = \boxed{}$

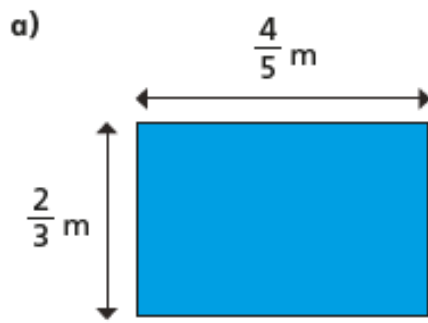
h) $\frac{3}{8} \times \frac{2}{9} \times \frac{3}{10} = \boxed{}$

Fill in the missing numbers.

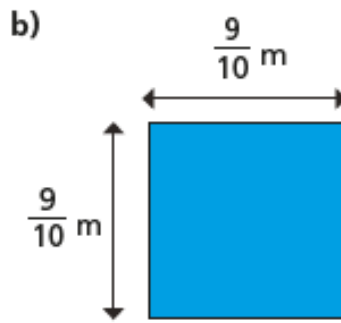
a) $\frac{1}{10} = \frac{\boxed{}}{4} \times \frac{\boxed{}}{5}$

b) $\frac{1}{4} = \frac{\boxed{}}{4} \times \frac{\boxed{}}{5}$

Calculate the area of the shapes.



Area = m^2



Area = m^2

8a. Titus has been trying to find pairs of fractions which multiply together to make the answer below.

$$\frac{?}{?} \times \frac{?}{?} = 2\frac{4}{16}$$

He has found 8 pairs so far. What could his pairs be?

9a. Ada has been multiplying fractions, but she has found the wrong answer.

$$\frac{11}{16} \times \frac{8}{5} = 2\frac{18}{55}$$

What mistake has she made?

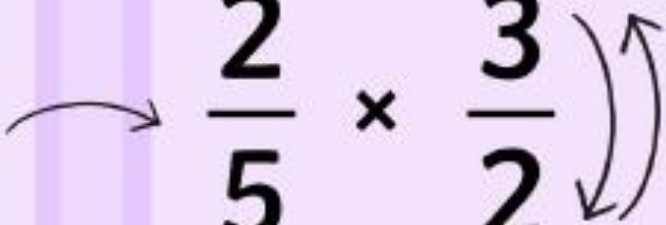
What should the answer be?

Wednesday

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Divide fractions by integers

$$\frac{2}{5} \div \frac{2}{3} \rightarrow \frac{2}{5} \times \frac{3}{2}$$


Invert the numerator and denominator to make the problem a multiplication problem.

Multiply the numerators. Multiply the Denominators.

$$\frac{2}{5} \times \frac{3}{2} = \frac{6}{10}$$

Simplify the fraction by dividing the numerator and denominator by the lowest common factor

$$\frac{6}{10} = \frac{3}{5}$$

Mild

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

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

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

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

5. $\frac{5}{8} \div 4 =$

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

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

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

Huan shares $\frac{8}{10}$ of a litre of juice equally between 4 glasses.

How much juice is in each glass?

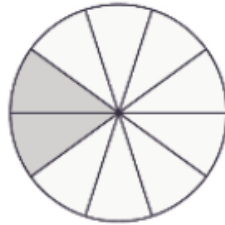


Solve the calculation to find the odd one out

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

a. $\frac{2}{10}$

b.



c.



2a. Josh and Kelly are calculating $\frac{4}{10} \div 2$.



Josh

The answer is $\frac{2}{10}$.



Kelly

The answer is $\frac{2}{5}$.

Who is correct?

Explain how you know.

Medium

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

1. $\frac{3}{7} \div 4 =$

2. $\frac{1}{2} \div 7 =$

3. $\frac{7}{25} \div 3 =$

4. $\frac{5}{16} \div 4 =$

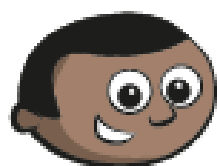
5. $\frac{11}{30} \div 5 =$

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

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

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

Mo works out $\frac{10}{25} \div 5$



The answer is $\frac{2}{5}$

a) What mistake has Mo made?

$\frac{3}{4}$ of a kilogram of rice is divided equally between two bowls.



How much rice is in each bowl?

Spicy

Complete the calculations. Give your answers in their simplest form.

a) $\frac{4}{10} \div 2 = \frac{\boxed{}}{10} = \frac{\boxed{}}{5}$

d) $\frac{18}{45} \div 2 = \boxed{} = \boxed{}$

b) $\frac{10}{15} \div 2 = \frac{\boxed{}}{15} = \boxed{}$

e) $\frac{24}{56} \div 3 = \boxed{} = \boxed{}$

c) $\frac{20}{45} \div 4 = \boxed{} = \boxed{}$

f) $\boxed{} = \boxed{} = \frac{21}{56} \div 3$

Write $<$, $>$ or $=$ to complete each statement.

a) $\frac{1}{3} \div 5$ $\bigcirc$ $\frac{1}{5} \div 3$

b) $\frac{1}{3} \div 3$ $\bigcirc$ $\frac{1}{5} \div 5$

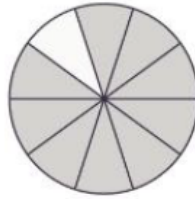
c) $\frac{3}{5} \div 5$ $\bigcirc$ $\frac{3}{5} \div 3$

Solve the calculation to find the odd one out

$$\frac{27}{10} \div 3$$

a. $\frac{9}{10}$

b.



c.



The missing digit in all the calculations is the same. Find the missing digit.

a. $\frac{18}{\square} \div 3 = \frac{6}{12}$

b. $\frac{24}{10} \div \square = \frac{2}{10}$

c. $\frac{\square}{5} \div 4 = \frac{3}{5}$

Thursday

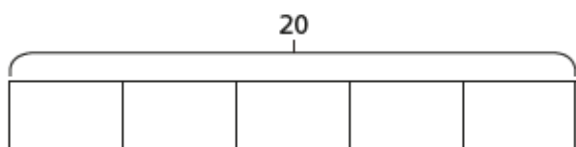
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Fractions of amounts applied in context

Mild

1



a) Shade $\frac{1}{5}$ of the bar model.

b) What is $\frac{1}{5}$ of 20?

2

Use your times tables knowledge to solve the calculations.

a) $\frac{1}{3}$ of 12 =

d) $\frac{1}{10}$ of 80 cm =

b) $\frac{1}{4}$ of £20 =

e) $\frac{1}{12}$ of 60 =

c) $\frac{1}{5}$ of 35 m =

f) $\frac{1}{7}$ of 84 kg =

Now use your answers to solve these calculations.

a) $\frac{2}{3}$ of 12 =

d) $\frac{7}{10}$ of 80 cm =

b) $\frac{3}{4}$ of £20 =

e) $\frac{11}{12}$ of 60 =

c) $\frac{3}{5}$ of 35 m =

f) $\frac{6}{7}$ of 84 kg =

2a. Kian has 80 stickers.

He says,



$\frac{1}{8}$ of the stickers are red
and $\frac{1}{5}$ are blue. I have
more red stickers than blue
stickers.

Is Kian correct? Convince me.

2b. Paula has saved £45.

She says,

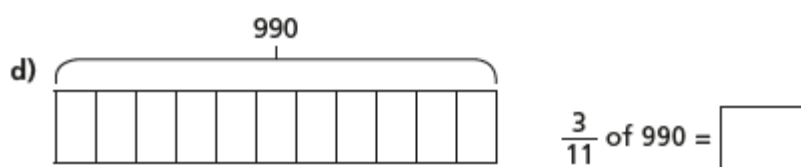
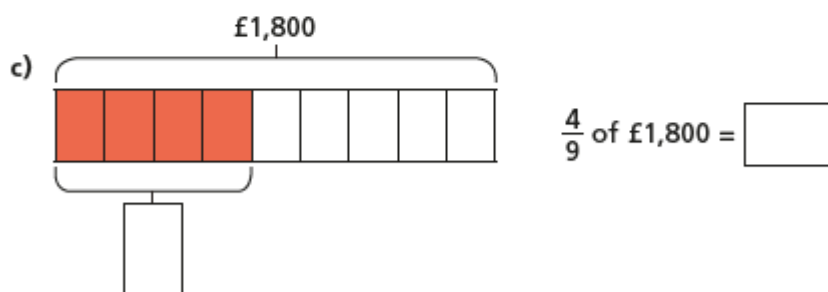
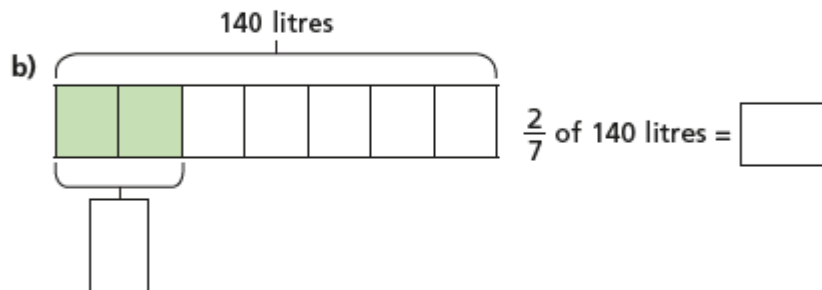
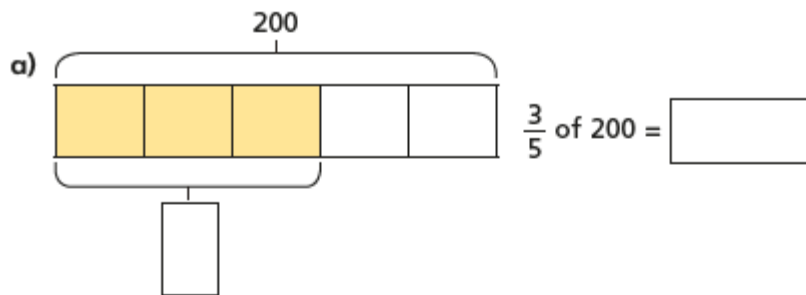


$\frac{1}{9}$ is for today's lunch and
 $\frac{1}{5}$ is for flowers. I will have
spent more money on
lunch than on flowers.

Is Paula correct? Convince me.

Medium

Calculate the missing values.



a) In a school of 480 pupils, $\frac{2}{3}$ are juniors.

How many juniors are in the school?

b) A factory makes 256 cars.

$\frac{3}{8}$ are electric cars.

How many electric cars does the factory make?

c) Brett uses $\frac{2}{5}$ of his £180 savings to buy a train ticket.

How much of his savings does he have left?

5a. Liam and Tia are reading the same book which has 630 pages.

Liam says,



I have read $\frac{5}{9}$ of the book.

Tia says,



I have read $\frac{4}{7}$ of the book.

Who has read the most pages?

5b. Twins, Amy and Simon, are given £8.40 each.

Amy says,



I have spent $\frac{5}{8}$ of my money.

Simon says,



I have spent $\frac{2}{3}$ of my money.

Who has spent the most money?

Spicy



Alex has 288 m of fence to paint.

She paints $\frac{3}{12}$ of the whole fence on Monday. She then paints $\frac{1}{2}$ of what is left on Tuesday.

How much fence does she have left to paint?

Fill in the missing numbers.

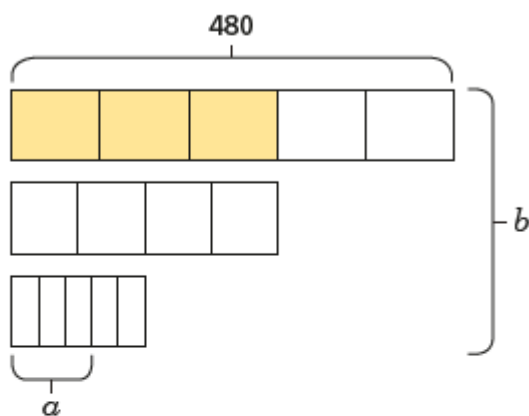
a) $\frac{\square}{10}$ of \$500 = \$150

c) $42 = \frac{\square}{100}$ of 700

b) $\frac{\square}{4}$ of 100 kg = 75 kg

d) $450 = \frac{\square}{20}$ of 3,000

Find the values of a and b .



$a = \square$

$b = \square$

Jack poured $\frac{7}{10}$ of a tin of paint into this jug.



How many millimetres of paint are left in the tin?

8a. Che and Mia are working at the same office which has 864 employees.

Che says,



I know $\frac{16}{24}$ of the employees.

Mia says,



I know $\frac{10}{18}$ of the employees.

Who knows the most employees?

8b. Leo and Moses share £3,300.

Leo says,



I have $\frac{6}{22}$ of the money.

Moses says,



I have $\frac{10}{25}$ of the money.

Who has the most money?

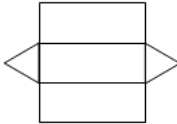
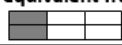
Friday

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Challenge Day!

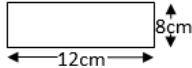
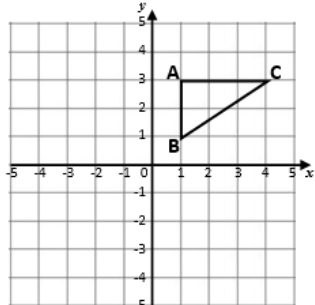
Key Skills

Mild

A: Place Value, Add and Subtract		B: Multiply, Divide and Fractions		C: Measure, Geometry and Statistics																	
1. Write $<$ or $>$ to make this correct: 501,234 495,837	5:1	11. Circle all the factors of 45. 2 4 5 12 15	5:8	21. A <u>500 gram</u> bag of sugar costs £1.80.	5:23																
2. Write 23,905 in words.	5:1	12. What special name do we give a number that has exactly two factors ?	5:9	Sue needs 1.5 kilograms of sugar. How much does this cost her?																	
3. Round 163,824 to the nearest ten .	5:2	13. $4,615 \div 5$	5:10	22. What shape is this a net of?	5:24																
4. What is the missing number? 81,137 81,127 81,107	5:2	14. 50.38×1000	5:11																		
5. The temperature was -4°C then increased by 13°C . What is it now?	5:3	15. Circle all of the square numbers . 4 8 25 30 38	5:12	23. Translate the shape: 	5:28																
6. What number is represented by these Roman Numerals? XCIV	5:4	16. $\frac{3}{4} - \frac{7}{12} =$	5:13	4 units right and 3 units down.																	
7. $112,498 - 48,745 =$	5:5	17. Find an equivalent fraction of $\frac{2}{6}$. 	5:14	24. Complete this two-way table that shows favourite drinks of adults:	5:30																
8. $34,857 + 79,384 =$	5:5	18. Write $\frac{17}{3}$ as a mixed number .	5:15	<table border="1"><thead><tr><th></th><th>Tea</th><th>Coffee</th><th>Total</th></tr></thead><tbody><tr><td>Men</td><td></td><td>27</td><td>66</td></tr><tr><td>Women</td><td>31</td><td></td><td></td></tr><tr><td>Total</td><td>70</td><td>76</td><td>146</td></tr></tbody></table>		Tea	Coffee	Total	Men		27	66	Women	31			Total	70	76	146	
	Tea	Coffee	Total																		
Men		27	66																		
Women	31																				
Total	70	76	146																		
9. Complete this sum without written working. $29,750 - 4,250 =$	5:6	19. $3\frac{3}{4} \times 4 =$	5:16																		
10. DVDs are £9.89 each. If I buy 2, how much change do I get from £30?	5:7	20. Round 6.72 to 1 decimal place.	5:17	25. How many more women chose coffee than chose tea?	5:30																
Total (A)		Total (B)		Total (C)																	
Test Total (A+B+C)		R (0-9)	Y (10-19)	G (20-25)																	

Key Skills

Medium and Spicy

A: Place Value, Add, Subtract, Multiply and Divide		B: Fractions, Ratio, Proportion and Algebra		C: Measure, Position and Direction	
1. Write in words: 3,602,700	6:1	11. Simplify this fraction fully: $\frac{28}{64}$	6:7	21. 65cm are chopped off a <u>2.3 metre</u> tall tree. How tall is it now?	6:18/19
2. What is the value of the 9 in this number? 3,954,682	6:1	12. $5\frac{3}{8} - \frac{2}{3} =$	6:8	22. How many months are there in seven years?	6:19
3. Round 8,523,912 to the nearest hundred .	6:1	13. $\frac{3}{4} \div 6 =$	6:9	23. A square has the same perimeter as this rectangle. What is the area of the square?	6:20
4. The temperature drops from 4°C to -7°C. What is the difference?	6:2	14. What is the value of the 1 in this number: 64.381	6:10		
5. 5,140 x 25	6:3	15. Give your answer as a decimal: 97.4 ÷ 4	6:11	24. What are the co-ordinates of A ?	
6. 9,425 ÷ 13	6:3	16. Write this percentage as a fraction and a decimal . 15%	6:12		
7. 9 and 21 only have two common factors . What are they?	6:4	17. Find 15% of 270.	6:13		
8. The number 45 has two prime factors . What are they?	6:4	18. The ratio of cats to dogs 5:3. If there are 15 dogs, how many cats?	6:14		
9. 3 x (25 + 13)	6:5	19. I share b biscuits between 2 people. Write an expression for this.	6:15		6:28
10. How many 47-seater buses does a school need for 134 pupils and staff?	6:6	20. Write a possible value for a and b . $a + 3 \times b = 28$	6:17	25. Translate triangle ABC 3 units left and 6 units down.	
Total (A)		Total (B)		Total (C)	
Test Total (A+B+C)		R (0-9)	Y (10-19)	G (20-25)	