Year 6 Maths Home Learning | Summer Term

W.C. 18th May

Maths Answers

Monday

Fluent in 5

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. $\frac{1}{7} + \frac{3}{7} = \frac{4}{7}$ (M)
2. 43.34 + 4.894 = **48.234** (W)
3. 76.4 – 21.2 = **55.2** (M)
4. 5 x 6 x 5 = **150** (M)
5. 683 x 7 = **4,781** (W)

Decimals: Multiply and divide decimals by 10, 100 and 1000

Mild

1 Complete the calculations and sentences.

Use place value counters to help you.

Th	H	T	O	Tth	Hth
			●●	●●●●	

a) 2.3 × 10 = 23

When the number is multiplied by 10 the counters move 1 place to the left.

b) 2.3 × 100 = 230

When the number is multiplied by 100 the counters move 2 places to the left.

c) 2.3 × 1,000 = 2,300

When the number is multiplied by 1,000 the counters move 3 places to the left.

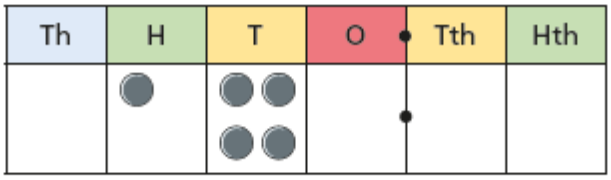
2 Complete the diagram.

3.06 → × 10 → 30·6 → × 10 → 306

2.46 x 1,000 = 2,460, 81.54 x 10 = 815.4 and 6.39 x 100 = 639.

Complete the calculations and sentences.

Use place value counters to help you.



a) 140 ÷ 10 = 14

When the number is divided by 10 the counters move 1 place to the right.

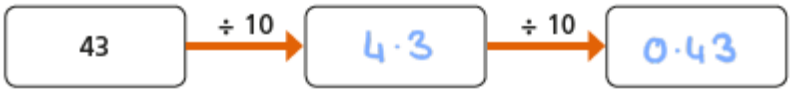
b) 140 ÷ 100 = 1·4

When the number is divided by 100 the counters move 2 places to the right.

c) 140 ÷ 1,000 = 0·14

When the number is divided by 1,000 the counters move 3 places to the right.

Complete the diagram.



a) 32.5 b) 30.1 c) 3.1 d) 320.5

Medium

Complete the calculations.

a) 13.44 × 10 = 134·4

b) 41.4 × 100 = 4,140

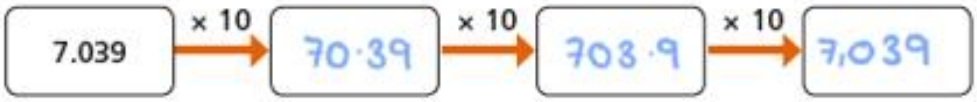
c) 0.415 × 1,000 = 415

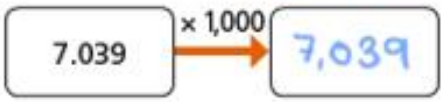
d) 4.4 × 1,000 = 4,400

e) 103 = 1.03 × 100

f) 30.44 = 3·044 × 10

Complete the diagrams.





What do you notice? Why does this happen?

They all give the same final answer because 10 x 10 x 10 = 100 x 10 = 1,000

Select the correct answer

46,379.

Amali is correct because Colin has only added 2 zeros onto his number and not multiplied it by 100.

Complete the calculations.

a) 16 ÷ 10 = 1·6

b) 43.4 ÷ 100 = 0·434

c) 614 ÷ 1,000 = 0·614

d) 332 ÷ 1,000 = 0.332

e) 2.4 ÷ 200 = 0.012

f) 5.09 = 101.8 ÷ 20

100; 54.43; 54,430

False. The answer is 23.54

21.55

Spicy

Write >, < or = to compare the number sentences.

1.4 × 10 × 10 × 10 (=) 1.4 × 1,000

1.4 × 10 × 100 (=) 1.4 × 1,000

1.4 × 10 × 10 (<) 1.4 × 1,000

1.4 × 10 × 2 (<) 1.4 × 100

Kim is calculating 14.3 × 200

She writes this as her answer.

$$14.3 \times 200 = 28.600$$

Explain Kim's mistake.

She has multiplied by 2 and added two zeros. She hasn't considered the place value of each digit. 14·3×200 = 2860

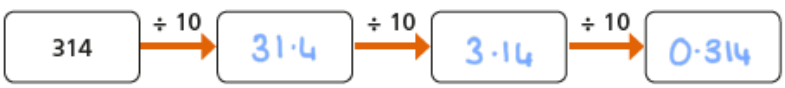
Which calculation is incorrect?

a) C is incorrect.

b) B is incorrect.

Both children are incorrect. Isabella has only added on 2 zeros onto her number and not multiplied by 100 and Saif has multiplied by 1,000.

Complete the diagrams.



What do you notice? Why does this happen?

They all give the same final answer because 10 x 10 x 10 = 100 x 10 = 1,000

Write >, < or = to compare the number sentences.

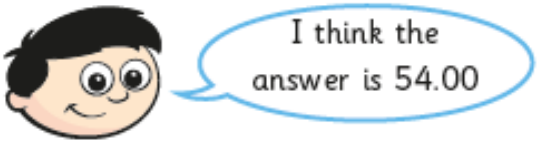
5,400 ÷ 10 ÷ 10 ÷ 10 (=) 5,400 ÷ 1,000

60 ÷ 100 ÷ 10 (<) 600 ÷ 100

5.7 ÷ 10 (=) 57 ÷ 100

5,601 ÷ 1,000 (>) 5.601 ÷ 10

Dexter is solving the calculation 5,400 ÷ 100

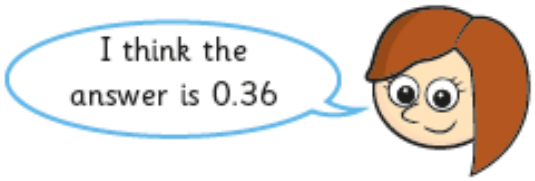


Is Dexter correct? Yes

Explain your reasoning.

54·00 is the same as 54

Rosie is solving the calculation 3,600 ÷ 200



Is Rosie correct? NO

Explain your reasoning.

She has divide by 100 twice (10,000) she should have divided by 100 then 2 to give an answer of 18

Tuesday

Fluent in 5

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. $\frac{1}{3} + \frac{1}{6} = \frac{3}{6}$ *or* $\frac{1}{2}$ (M)
2. **41,322** – 18,573 = 22,749 (W)
3. 8 x 3 x 3 = **72** (M)
4. 89.43 – 13.12 = **76.31** (M)
5. 37 x 78 = **2,886** (W)

Multiply fractions by fractions

Mild

1. Use place value counters to solve the calculations.

a) 3.2 × 3 = 9·6

Ones	Tenths
1 1 1	0.1 0.1
1 1 1	0.1 0.1
1 1 1	0.1 0.1

b) 4.6 × 2 = 9·2

Ones	Tenths
1 1 1 1	0.1 0.1 0.1 0.1 0.1 0.1
1 1 1 1	0.1 0.1 0.1 0.1 0.1 0.1

2. Solve the multiplication. Draw your answer.

12.2 × 3 = 36·6

Tens	Ones	Tenths
○ ○ ○	○○ ○○ ○○	○○ ○○ ○○

1.3 x 5 and 6.5,
6.2 x 3 and 18.6,
7.4 x 2 and 14.8,
3.8 x 4 and 15.2

4.1 x 5 = 20.5. The cards 5.2, 21.5 and 4 are not needed.

Mia has added the numbers instead of multiplying them. The correct answer is 28.8.

Medium

Work out the multiplications.

a) 5.2 × 4 = 20·8

b) 14.3 × 3 = 42·9

c) 6 × 9.1 = 54·6

d) 7·02 = 2.34 × 3

e) 11.505 × 4 = 46·02

f) 9.602 × 6 = 57·612

Work out the multiplications.

a) 7.2 × 2 = 14·4

7.2 × 4 = 28·8

14.4 × 4 = 57·6

7.2 × 8 = 57·6

b) 10·35 = 3.45 × 3

103·5 = 34.5 × 3

1,035 = 345 × 3

Circle the odd one out.

4.88 x 6 is the odd one out because this equals 29.28. The other calculations equal 25.44.

Select and arrange the cards to create a multiplication calculation.

7.31 x 5 = 36.55. The cards 7.29, 6, 8.28 35.65 and 8 are not needed.

Spicy

Match the calculations to their products.

7.046 x 8 and 56.368, 9.187 x 6 and 55.122, 8.902 x 7 and 62.314, 6.549 x 9 and 58.941

True or false?

False. 6.024 x 8 = 48.192

Amir is solving 3.4 x 4

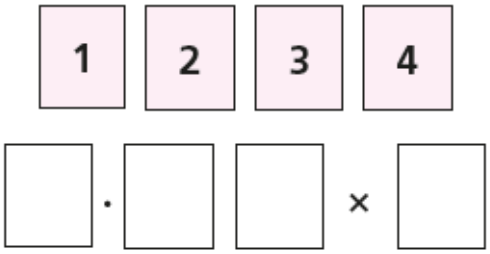
To solve this, I did 34 x 4, which was 136 Then I multiplied my answe by 10 to get an answer of 1,360

Do you agree with Amir? NO

Explain why.

34 is ten times bigger than 3·4 so he should have divided by 10 to get 13·6

Use the digits 1, 2, 3 and 4 once each to create a calculation..



a) How many different products can you make?

b) What is the greatest possible product?

12·84

c) What is the smallest possible product?

0·234

d) What is the product closest to 12?

12·36

Select and arrange the cards to create a multiplication calculation. Which cards are not needed?

7.607 x 9 = 68.463. The cards 53.468, 7.706, 8, 6.706 and 69.534 are not needed.

Wednesday

Fluent in 5

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

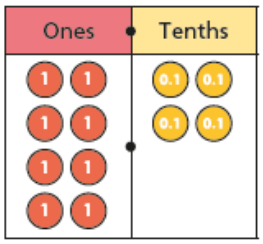
1. 87 ÷ 100 = **0.87** (M)
2. 5 x 6 x 5 = **150** (M)
3. 86.49 – 17.9 = **68.59** (W)
4. $\frac{1}{5} + \frac{4}{15} = \frac{7}{15}$ (M)
5. 3,842 ÷ 5 = **768 r 2** *or* **768 2/5** *or* **768.4** (W)

Divide fractions by integers

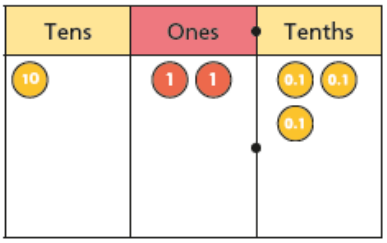
Mild

1 Use place value counters to work out the divisions.

a) 8.4 ÷ 4 = 2·1

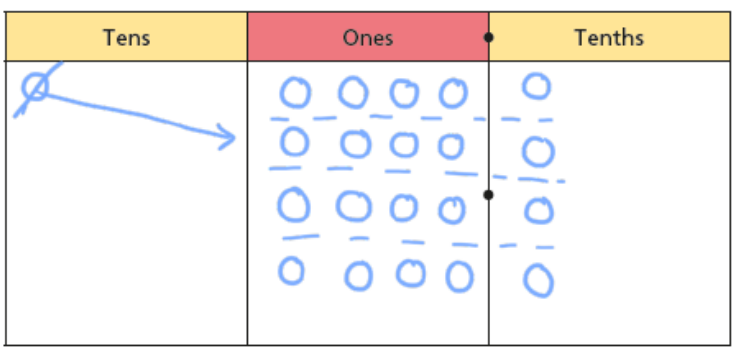


b) 12.3 ÷ 3 = 4·1

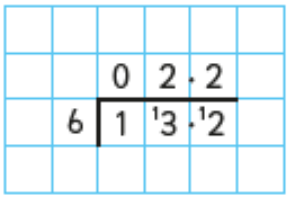


2 Work out the division. Draw your answer.

16.4 ÷ 4 = 4·1

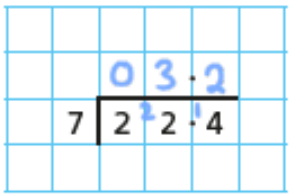


3 Brett uses short division to work out 13.2 ÷ 6

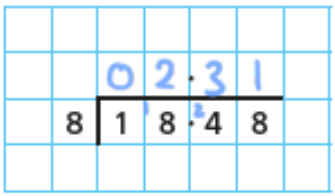


Use short division to work out the calculations.

a)



b)

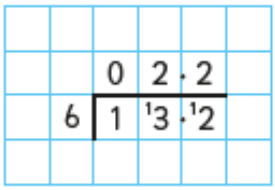


4a. No; 2.4 ÷2 = 1.2 and 9.6 ÷3 = 3.2.

4b. Yes; 8.8 ÷2 = 4.4 and 5.5 ÷5 = 1.1.

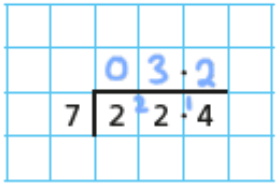
Medium

Brett uses short division to work out 13.2 ÷ 6

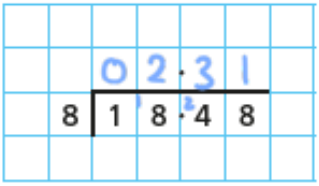


Use short division to work out the calculations.

a)



b)



Work out the divisions.

a) 25.6 ÷ 8 = 3·2

d) 3·89 = 19.45 ÷ 5

b) 14.8 ÷ 4 = 3·7

e) 202.35 ÷ 3 = 67·45

c) 18.48 ÷ 6 = 3·08

f) 105.12 ÷ 9 = 11·68

Yes, both calculations have an answer of 1.21.

No; both calculations have an answer of 1.11.

Spicy

Work out the divisions.

a) 9.64 ÷ 4 = 2·41

96.4 ÷ 4 = 24·1

0.964 ÷ 4 = 0·241

9.64 ÷ 8 = 1·205

b) 19.44 ÷ 9 = 2·16

19.53 ÷ 9 = 2·17

19.62 ÷ 9 = 2·18

Fill in the missing numbers.

3.6 ÷ 4 = 36 ÷ 40

3.6 ÷ 4 = 7·2 ÷ 8

Complete the calculation.

e.g. 8.4 ÷ 2 = 4.2 ÷ 1

How many different solutions can you find?

Yes; both calculations have an answer of 1.002.

No; 14.707 ÷7 = 2.101 so it is greater than 10.105 ÷5 = 2.021.

Thursday

Fluent in 5

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. $\frac{2}{9} + \frac{1}{3} = \frac{5}{9}$ (M)
2. 3 x 0 x 9 = **0** (M)
3. 76.4 – 16.53 = **59.87** (W)
4. 76.39 – 13.2 = **63.19** (M)
5. 8,473 + 12,987 = **21,460** (W)

Decimals: Convert from a decimal into a fraction and simplify

Mild

1 Complete the sentences.

a)

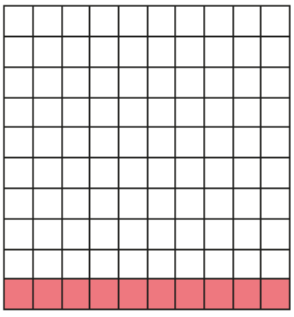
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

The whole has been divided into [10] equal parts.

Each part is worth [0·1]

This is equivalent to [$\frac{1}{10}$]

b)



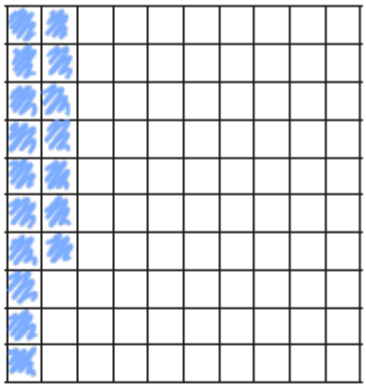
The whole has been divided into [100] equal parts.

Each part is worth [0·01]

[10] parts out of [100] are shaded.

This is equivalent to [$\frac{10}{100}$] or $\frac{1}{10}$

2 a) Shade 0.17 of the hundred square.



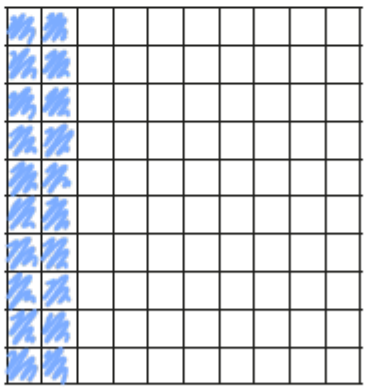
Complete the sentence.

17 parts out of 100 are shaded.

Write 0.17 as a fraction.

$0.17 = \frac{17}{100}$

b) Shade 0.2 of the hundred square.



Complete the sentence.

20 parts out of 100 are shaded.

Write 0.2 as a fraction in its simplest form.

$0.2 = \frac{1}{5}$

1. $0.27 = \frac{27}{100}$

2. $0.50 = \frac{1}{2}$

3. $0.30 = \frac{3}{10}$

4. $0.64 = \frac{16}{25}$

5. $0.55 = \frac{11}{20}$

6. $0.60 = \frac{3}{5}$

7. $0.45 = \frac{9}{20}$

8. $0.80 = \frac{4}{5}$

Medium

0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

0.2	0.2	0.2	0.2	0.2

Use the bar models to fill in the missing numbers.

$0.2 = \frac{\boxed{2}}{10} = \frac{1}{\boxed{5}}$

$0.4 = \frac{\boxed{4}}{10} = \frac{2}{\boxed{5}}$

$\boxed{0.8} = \frac{\boxed{8}}{10} = \frac{4}{5}$

Fill in the missing numbers.

a) $0.54 = \frac{\boxed{54}}{100} = \frac{\boxed{27}}{50}$

b) $0.6 = \frac{\boxed{6}}{10} = \frac{\boxed{3}}{5}$

c) $0.3 = \frac{\boxed{3}}{10} = \frac{\boxed{30}}{100}$

d) $\boxed{0.09} = \frac{9}{100}$

e) $\boxed{0.9} = \frac{9}{10}$

f) $\frac{21}{50} = \frac{\boxed{42}}{100} = \boxed{0.42}$

1. $0.86 = \frac{43}{50}$

2. $0.38 = \frac{19}{50}$

3. $0.54 = \frac{27}{50}$

4. $0.06 = \frac{3}{50}$

5. $0.46 = \frac{23}{50}$

6. $0.22 = \frac{11}{50}$

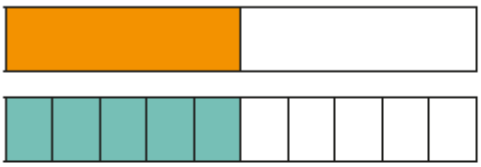
7. $0.87 = \frac{87}{100}$

8. $0.25 = \frac{1}{4}$

Spicy

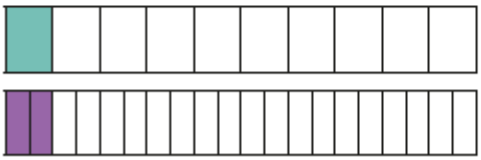
Use the bar models to fill in the missing numbers.

a)



$\frac{1}{2} = \frac{5}{10} = 0.5$

b)



$0.1 = \frac{1}{10} = \frac{2}{20}$

1. $1.78 = 1\frac{39}{50}$

2. $0.73 = \frac{73}{100}$

3. $0.05 = \frac{1}{20}$

4. $1.65 = 1\frac{13}{20}$

5. $0.08 = \frac{2}{25}$

6. $0.07 = \frac{7}{100}$

7. $1.81 = 1\frac{81}{100}$

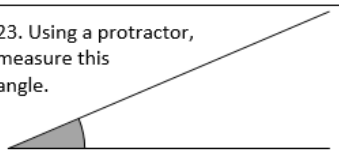
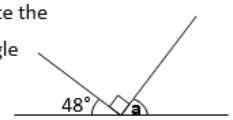
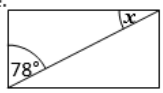
8. $1.55 = 1\frac{11}{20}$

Friday

Challenge Day!

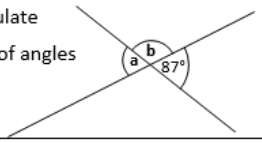
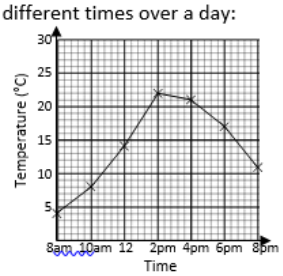
Key Skills

Mild

A: Place Value, Add and Subtract		B: Multiply, Divide and Fractions		C: Geometry and Problem Solving	
1. What is the value of the **9** in this number? 2,934,765	5:1 **900,000**	11. Circle all the **multiples** of 11. (11) 54 78 (121)	5:8 **11, 121**	21. A jug had 1.317 litres in it. A further 0.923 litres was added to it. How many litres are in the jug now?	5:18 **2.24 litres**
2. Write **fifty seven thousand, two hundred and thirty eight** in digits.	5:1 **57,238**	12. Circle the **composite (non-prime)** numbers? 2 3 (9) 13 (15)	5:9 **9, 15**		
3. Round 163,824 to the **nearest hundred thousand.**	5:2 **200,000**	13. 4,962 x 6	5:10 **29,772**	22. Which of these is the largest? **a.** 55% **b.** $\frac{3}{5}$ **c.** 0.4	5:19 **b**
4. What is the missing number? 366,270 266,270 [ ] 66,270	5:2 **166,270**	14. 670.2 ÷ 10	5:11 **67.02**		
5. Find the difference in temperatures. London -1°C Glasgow -9°C	5:3 **8°C**	15. Complete this sequence of **cube numbers.** 1 8 [ ] 64	5:12 **27**	23. Using a protractor, measure this angle. 	5:25 **24° (+/- 2°)**
6. Write this number in Roman Numerals: 509	5:4 **DIX**	16. Write **<**, **=** or **>** to make this correct: $\frac{1}{3}$ [ ] $\frac{5}{9}$	5:13 **<**		
7. 85,248 – 38,049 =	5:5 **47,199**	17. Find an **equivalent fraction** of $\frac{6}{10}$. 	5:14 $\frac{60}{100}$ or $\frac{12}{20}$	24. Calculate the missing angle labelled **a**: 	5:26 **42°**
8. 38,049 + 85,248 =	5:5 **123,297**	18. Write $4\frac{1}{2}$ as an **improper fraction.**	5:15 $\frac{9}{2}$		
9. Complete this sum without written working. 13,200 + 6,450 =	5:6 **19,650**	19. $\frac{5}{8}$ x 24 =	5:16 **15**	25. A diagonal has been drawn through this rectangle. Calculate the angle labelled x. 	5:27 **12°**
10. 38,276 seats out of 40,000 are taken. How many are empty?	5:7 **1,724**	20. Round 3.71 to the nearest whole number.	5:17 **4**		
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 and Problem Solving	
1. Write **six million, four hundred and twenty thousand, and thirty** in digits.	*6:1* **6,420,030**	11. Which is the **largest** fraction? $\frac{5}{9}$. $\frac{17}{27}$ or $\frac{27}{54}$	*6:7* **$\frac{17}{27}$**	21. Name the shape: "I have 1 pair of unequal parallel sides."	*6:24* **Trapez-ium**
2. What is the value of the **6** in this number? 3,954,682	*6:1* **600**	12. $\frac{1}{7} + \frac{1}{9} =$	*6:8* **$\frac{16}{63}$**	22. The **radius** of a circle is 9.5cm. How long is the **diameter**?	*6:25* **19cm**
3. Round **8,523,912** to the nearest **thousand**.	*6:1* **8,524,000**	13. Simplify your answer. $\frac{2}{9} \times \frac{3}{4} =$	*6:9* **$\frac{1}{6}$**	23. Calculate the size of angles **a** and **b**. 	*6:26* **a=87° b=93°**
4. To a number I add 12 then subtract 20 and get -4. What did I start with?	*6:2* **4**	14. 3.12 ÷ 10	*6:10* **0.312**		
5. 1,922 x 48	*6:3* **92,256**	15. 3.97 x 8	*6:11* **31.76**	24. Line graph showing temperatures at different times over a day:  Describe how the temperature changed over the course of the day.	*6:29* **Temp increases from 8am until it peaks at 2pm, then it decreases to 8pm.**
6. Give your answer to the **nearest whole number**: 4,453 ÷ 15	*6:3* **297**	16. Write this fraction as a **decimal** and a **percentage**. $\frac{1}{4}$	*6:12* **0.25, 25%**		
7. Which is a **common multiple** of 20 and 30? 60 40 15 10 4	*6:4* **60**	17. Find **80%** of 90.	*6:13* **72**		
8. Circle **all** the **prime numbers**: 85 89 97 99	*6:4* **89, 97**	18. What is the **scale factor**? 	*6:14* **9**		
9. 28 ÷ (8 + 6) x 7	*6:5* **14**	19. How long does a 7kg chicken take? To cook: 1 hour + 25mins per kg.	*6:15* **3h 55m**		
10. How much cheaper is a meal? Burger £1.89 Fries £1.09 Meal £2.50	*6:6* **48p**	20. What is the rule for this sequence? 5, 11, 23, 47, 95, ...	*6:16* **x2 +1**	25. Find the mean of these numbers: 23 27 20 18 22	*6:30* **22**
Total (A)		Total (B)		Total (C)	
Test Total (A+B+C)		R (0-9)	Y (10-19)	G (20-25)	