Year 5/6 Maths Week 6

	Date						
	ubject/s				Maths		
	ing Objective		To recall and	use mu	ltiplication and	l division	facts
			21	<u>۱</u>			
	′ x 2	=	21		x 6	= -	
	x 8 x 6		22		x 9 x 7		
,	x 9	= =	23 24		x 8	=	
	x 4	=	25		x 3	=	
	5 x 4		26		x 6		
	' x 5	=	27		x 5	=	
	x 10	=	28		x 9	=	
	x 6	=	29	•) x 7	=	
	6 x	= 18		, 21)	x 7	/ =	49
	8 x	= 16		22)	8 x	=	72
3)	x 7	= 7		23)	x e	. =	48
4)	x 9	= 45		24)	9 x	, =	45
	7 x	= 21		25)	x7	- =	63
6)	x 6	= 36		26)	<u>6 x</u>	=	36
7)	x 8	= 40		27)	8 x	- =	64
	9 x			1	xe	- 5 =	
	x 8				x 9		
	x 6				7 x		
	7 x				x8		
	x6				6 x		
	x 8				9 x		
	9 x				x8		
	6 x			Sec. 2296	x7		
	x8				9 x		
2.0	x 9				xe		
	6 x				x		
	8 x				7 x		
	x9				x9		
201 -	^	- 10		10)	^	_	54

Date											
Subject/s		Maths									
Learning Objective	1										
			To find the mean								
				SA	ТА						
				A							
Success Criteria	I know	the mean is a typ	pe of average d by finding the total and dividing by								
✓! 🗐	I know	the mean is found	1 by finding the total and dividing by								
÷			ind original amounts	<u>_</u>	<u> </u>						
Support Pre-task:	Inae	ependent	Adult Support () Group Wo	πk							
Calculate the mean r	umber o	f crayons:	_								
Cray	on colour	Amount									
	Blue	14									
(Green	11									
	Red	10									
Y	'ellow	9									
If Jack had three Fatima have	e pairs c if the m	rf shoes, Alice ean is 3? Exp	e had 4 pairs of shoes. How n lain how you worked it out.	nany di	d						

<u>Teacher Led</u>

https://corbettmaths.com/2012/08/02/the-mean/

The mean is the total of the numbers divided by how many numbers there are.

- To find the mean, add all the numbers together then divide by the number of numbers.
- Eg 6 + 3 + 100 + 3 + 13 = 125 ÷ 5 = 25
- The mean is 25.

The mean is not always a whole number.



To find the mean of the above numbers I need to find the total.

10 + 8 + 10 + 8 + 8 + 4 = 48

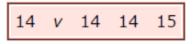
Then divide the total by how many numbers there are

48 / 6 = 8

Mean = 8

https://www.youtube.com/watch?v=XXlgx7oeTpQ&safe=active

Abby has the following data:



If the mean is 12, which number could v be?

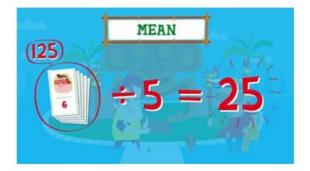
To find out the missing value, when you already know the mean, you need to think about how you would find the mean and then do it in reverse.

If I was finding the mean of these numbers I would add them all up and divide them by how many there are.

14 + v + 14 + 14 + 15 = Total

Total / 5 = 12

I now need to think what must the total be, if you divide it by 5 and get 12. The total must be 60. I can then use this to find the missing number.



Fluency

1)	23, 15, 8, 12, 26, 5, 22, 9	2) 81, 69, 72, 80, 67, 62, 78, 74, 71, 86
	Mean =	Mean =
3)	54, 38, 52, 51, 49, 46, 39,	4) 25, 36, 34, 17, 22, 31, 38,
	53, 47, 42, 52, 41	
	Mean =	Mean =
5)	61, 45, 52, 48, 53, 49, 57,	6) 19, 23, 26, 22, 31, 33, 29,
	46, 60, 54, 58	21, 30
	Mean =	Mean =
7)	95, 88, 79, 93, 82, 90, 94,	8) 57, 32, 45, 38, 42, 54, 51,
	85, 91, 83	39, 47, 43, 36, 56
	Mean =	Mean =
9)	36, 47, 35, 28, 23, 32, 49,	10) 78, 82, 80, 65, 69, 72, 79
	46	
	Mean =	Mean =

1) Find the mean of the following weights:

6kg, 8kg, 7kg, 6kg, 8kg, 13kg,

- 2) Find the mean of the following times:
 - 13s, 20s, 27s, 30s, 25s, 28s, 30s, 35s
- 3) The mean of three numbers is 7. Two of the numbers are 6 and 12. What is the third?
- 4) The mean of four numbers is 5. Three of the numbers are 3, 5, and 8. What is the fourth?
- 5) The mean of three numbers is 10. One of the numbers is 12. Write down what the other two numbers could be. Write down another pair of numbers that are possible.
- 6) A set of five numbers has a mean of 10 What could the 5 numbers be?
- 7) Three numbers have a mean of 23 Two of the numbers have a mean of 12 Two of the numbers have a mean of 30 What are the three numbers?

												-

Problem solving and reasoning



Use it!

The mean number of goals scored in 6 football matches was 4. Use this information to calculate the missing number of goals:

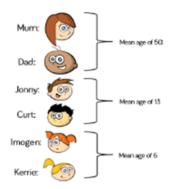
Match number	Number of goals
1	8
2	4
3	6
4	2
5	1
6	

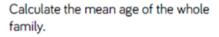
The mean number of goals scored by 3 teams was 2. How many could each team

have scored? Can you find at least 10 possible solutions?

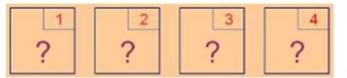
Use it!

Work out the age of each member of the family if: Mum is 48 years old. Jonny is 4 years older than Curt and 7 years older than Imogen.





Further Challenge



There are four unknown numbers.

The mean of the first two numbers is 4.

The mean of the first three numbers is 9.

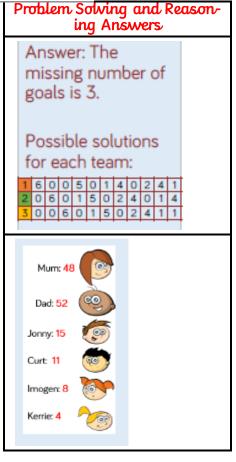
The mean of all four numbers is 15.

If one of the four numbers is 2, what are the others?

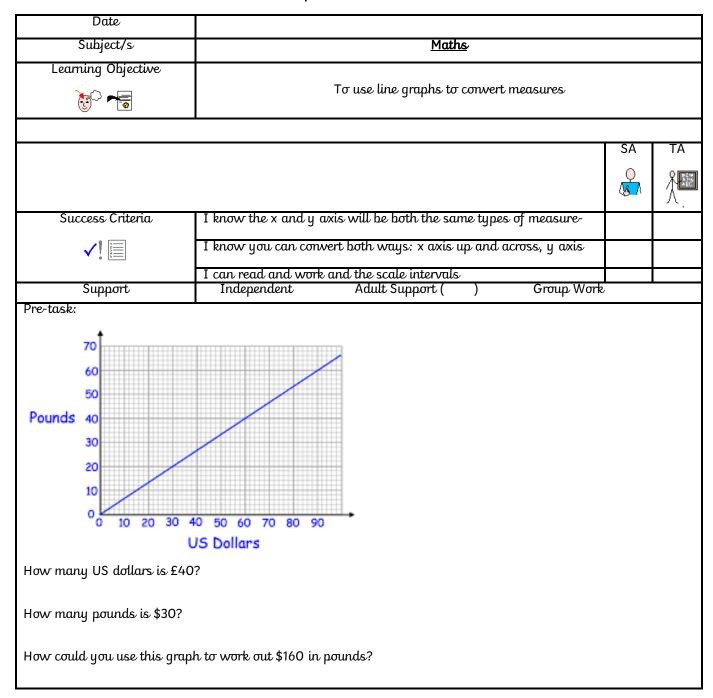
Fluency Answers

1)	23, 15, 8, 12, 26, 5, 22, 9	2) 81, 69, 72, 80, 67, 62, 78, 74, 71, 86
	9	74, 71, 86
	Mean = 15	Mean = 74
3)	54, 38, 52, 51, 49, 46, 39,	4) 25, 36, 34, 17, 22, 31, 38,
	53, 47, 42, 52, 41	
	Mean = 47	Mean = 29
5)	61, 45, 52, 48, 53, 49, 57,	6) 19, 23, 26, 22, 31, 33, 29,
	46, 60, 54, 58	21, 30
	Mean = 53	Mean = 26
7)	95, 88, 79, 93, 82, 90, 94,	8) 57, 32, 45, 38, 42, 54, 51,
	85, 91, 83	39, 47, 43, 36, 56
	Mean = 88	Mean = 45
9)	36, 47, 35, 28, 23, 32, 49,	10) 78, 82, 80, 65, 69, 72, 79
	46	
	Mean = 37	Mean = 75

- 1) 8kg
- 2) 26s⁄
- 3) 21 18 = 3
- 4) 20 16 = 4
- 5) Total = 30
- 18 remaining any pair of numbers that add to make 18
- 6) Any possibilities where the 5 numbers add to make 50
- 7) 9, 15, 45



Date			
Subject/s		Maths	
Learning Objective	To recall and u	se multiplication and divisic	m facts
3 × 4 =	7 × 8 =	9 ÷ 3 =	36 ÷ 12 =
21 ÷ 7 =	8 × 6 =	12 × 4 =	10 × 8 =
4 × 8 =	3 × 9 =	4 × 7 =	3 × 11 =
40 ÷ 8 =	15 ÷ 3 =	27 ÷ 9 =	20 ÷ 4 =
4 × 11 =	48 ÷ 6 =	8 ÷ 4 =	6 × 8 =
5 × 8 =	11 × 3 =	5 x 8 =	80 ÷ 10 =
24 ÷ 4 =	88 ÷ 11 =	24 ÷ 3 =	4 × 1 =
72 ÷ 8 =	8 × 4 =	9 × 4 =	8 × 5 =
10 × 3 =	16 ÷ 4 =	8 × 11 =	6 × 4 =
5 × 4 =	32 ÷ 8 =	6 ÷ 3 =	3 ÷ 3 =
12 ÷ 3 =	3 × 6 =	48 ÷ 12 =	44 ÷ 11 =
4 × 9 =	8 ÷ 8 =	3 × 4 =	7 × 3 =
11 × 8 =	4 × 3 =	0 x 8 =	12 × 8 =
3 × 12 =	48 ÷ 8 =	18 ÷ 3 =	28 ÷ 4 =
24 ÷ 8 =	30 ÷ 10 =	3 × 3 =	56 ÷ 7 =
27 ÷ 3 =	8 × 9 =	64 ÷ 8 =	4 × 12 =
7 × 4 =	10 × 4 =	36 ÷ 4 =	5 × 3 =
36 ÷ 9 =	16 ÷ 8 =	8 × 8 =	56 ÷ 7 =
56 ÷ 8 =	8 × 3 =	21 ÷ 3 =	4 × 6 =
3 × 0 =	72 ÷ 9 =	4 × 12 =	32 ÷ 4 =
12 ÷ 4 =	3 × 8 =	96 ÷ 12 =	12 × 3 =
33 ÷ 3 =	4 × 4 =	24 ÷ 8 =	7 × 8 =
6 × 3 =	9 × 8 =	2 × 3 =	9 × 3 =
40 ÷ 4 =	4 ÷ 4 =	11 × 4 =	21 ÷ 3 =
28 ÷ 7 =	3 × 7 =	32 ÷ 8 =	8 × 12 =



<u>Teacher Led</u>

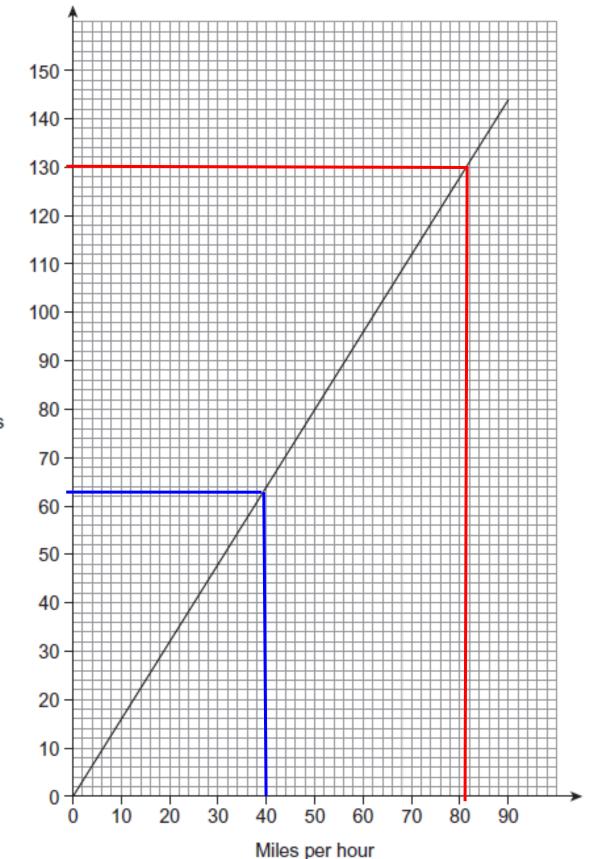
https://corbettmaths.com/2012/08/09/conversion-graphs/

The graph below shows miles to kilometres.

If I wanted to know what 40 miles per hour was in kilometres per hour, I would put my ruler at 40 miles on the x axis, I would then read up until I hit the line and then read across to the y axis. (See the blue line)

40 miles per hour is approximately 63 kilometres per hour.

You can read it the opposite way too! If I want to know what 130 kilometres per hour is in miles per hour, I would find 130 on the y axis, read across until I hit the line and then read down to the x axis. (See the red line)



Kilometres per hour

Fluency

Question 1:

- (a) How long should a 120 mile journey take?
- (b) How long should a 270 mile journey take?
- (c) Carlos has spent 1 hour travelling. What distance is he expected to have travelled?
- (d) Rosie has spent 3.5 hours travelling. What distance is she expected to have travelled?

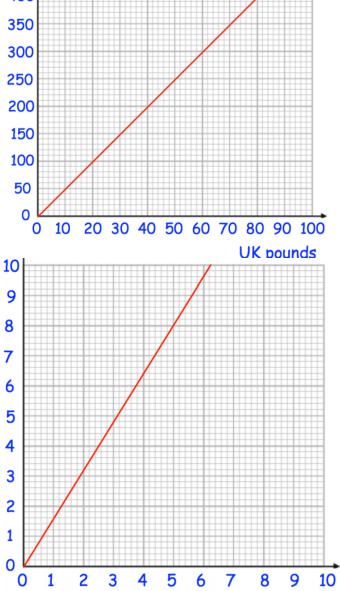
Question 2:

- (a) Change £20 into Polish złoty
- (b) Change £90 into Polish złoty
- (c) Change 300zł into UK pounds
- (d) Change 450zł into UK pounds
- (e) Change £50 into Polish złoty
- (f) Change £200 into Polish złoty
- (g) Change 800zł into UK pounds

Question 3: This conversion graph can be used to change between miles and kilometres.

- (a) Change 5 miles into kilometres
- (b) Change 1 mile into kilometres
- (c) Change 6km into miles
- (d) Change 4.8km into miles
- (e) Change 20 miles into kilometres
- (f) Change 16km into miles





Miles



Question 1:

Richard has ₺300 and £800. He buys a flight that costs ₺900

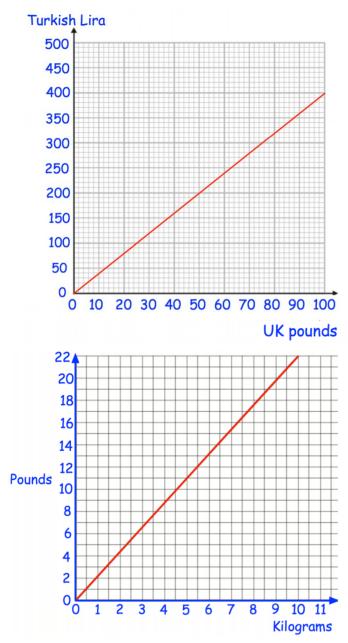
He pays use the ₹300 and some of the pounds.

Work out how many pounds he has left.

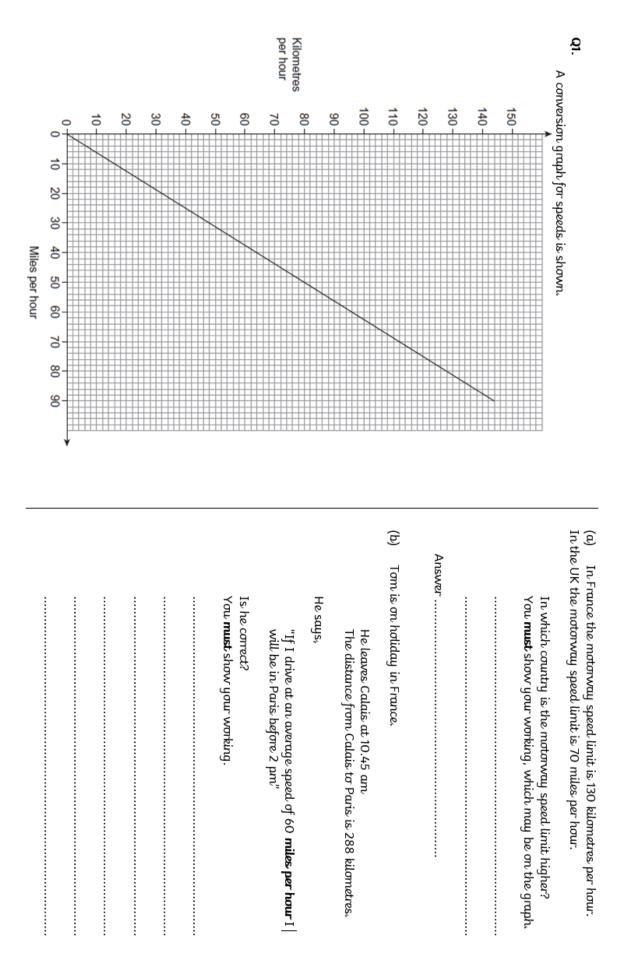
Question 2:

Jenny's weight is 65kg. 1 stone = 14 pounds.

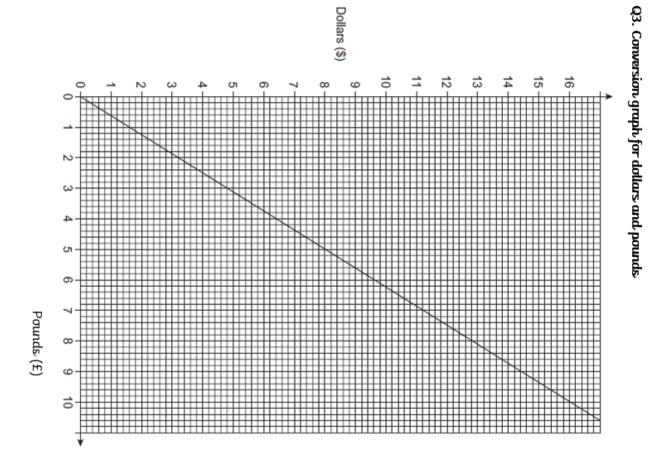
What is Jenny's weight in stones and pounds?



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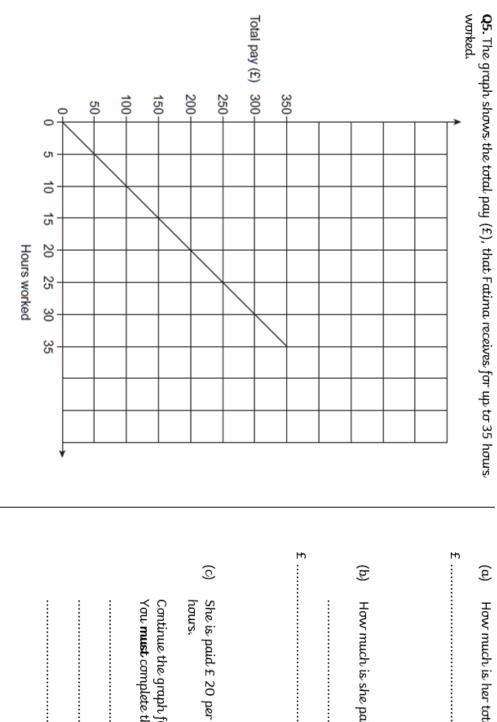


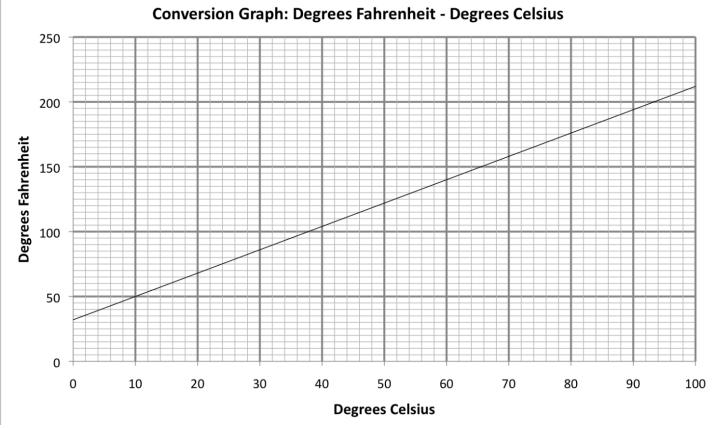
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(a)	Use the graph to convert £5 into dallars (\$).
Answer\$	r\$
(d)	Lucy is going to the USA on holiday. She converts £500 into dollars (\$) at the rate shown by the graph.
	How much does she get in dollars (\$)?
Answer\$	r\$
(c)	After the holiday the exchange rate is £1 = \$1.75 She converts \$150 back into pounds (£).
	How much does she get back?
Answer£	r £
	(Total 6 ma

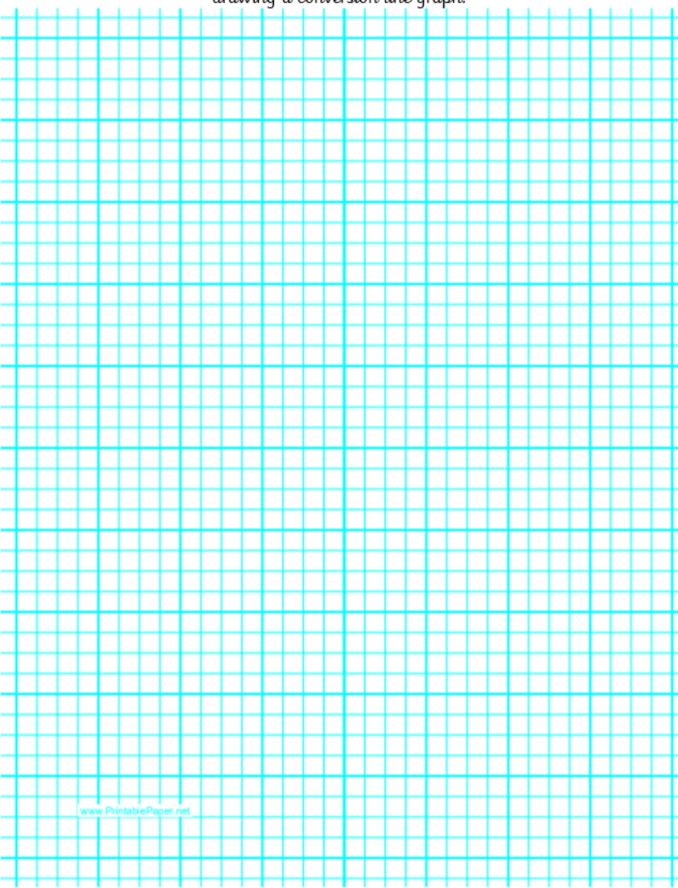
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Write your own questions for the above conversion graph. Remember to create an answer sheet too!

Further Challenge Think of all the conversions you know and have learnt about this year. Have a go at drawing a conversion line graph.



Answers

Question 1

- (a) 2 hours
- (b) 4.5 hours
- (c) 60 miles
- (d) 210 miles

Question 2

- (a) 100zl
- (b) 450zl
- (c) £60
- (d) £90
- (e) 250zl
- (f) 1000zl
- (g) £160

Question 3

- (a) 8km
- (b) 1.6km
- (c) 3.8miles
- (d) 3 miles
- (e) 32km
- (f) 10 miles

Question 1

£650

Question 2

10 stone 3 pounds

3.a)£5=\$8 (1)a) 130kmph= 80mph b) £500 = \$ 800 70mph=112kmph France has a higher speed c)£1=\$1.75 Cimit 50... \$=50 £100 = \$175 b) 60mph= 96kmph He can travel × 6 6£85.74 = \$ 150 2×6 for a maximum 10.45 an 2+15mins. of 3 hours 15 mins 2.00pm 3 haves Ismins (5) a) £350 Thow = 96kmph 3hours = 288kmph 6) Shows = £50 Thour = ±10 C) 35 hours = £350 Tom is correct + 10 hours at £20 per hav (10×20=200) £550

Date	
Subject/s	Maths
Learning Objective	To recall and use multiplication and division facts

1	9 X 7	30	6 x 9	59	9 X 4	
2	8 x 4	31	12 x 3	60	7 x 6	
3	7 x 10	32	3 x 8	61	4 x 8	
4	9 x 9	33	8 X 8	62	12 X 2	
5	6 x 2	34	6 x 8	63	3 x 6	
6	4 x 7	35	11 x 7	64	4 x 10	
7	9 X 2	36	10 x 1	65	9 x 11	
8	12 x 12	37	10 x 5	66	3 x 12	
9	5 X 9	38	3 x 5	67	3 x 10	
10	7 X 7	39	12 x 11	68	4 X 4	
11	11 x 6	40	6 x 6	69	4 x 9	
12	5 x 11	41	2 x 9	70	4 x 11	
13	4 x 6	42	12 x 7	71	6 x 5	
14	9 x 5	43	11 x 8	72	7 x 2	
15	8 X 12	44	2 x 6	73	5 x 12	
16	10 x 10	45	4 x 5	74	2 x 10	
17	7 x 3	46	4 x 9	75	4 x 12	
18	5 x 8	47	8 x 2	76	7 x 8	
19	3 x 3	48	7 x 9	77	6 x 10	
20	10 x 11	49	12 x 8	78	12 x 6	
21	11 x 2	50	9 X 4	79	7 x 12	
22	2 x 7	51	5 X 5	80	2 X 2	
23	6 x 12	52	10 x 12	81	11 x 0	
24	5 x 7	53	8 x 11	82	2 x 12	
25	10 x 6	54	4 x 3	83	2 X 4	
26	9 x 12	55	2 x 5	84	8 x 5	
27	5 x 4	56	5 x 10	85	7 x 11	
28	11 x 11	57	9 x 3	86	9 x 6	
29	7 x 4	58	8 x 10	87	10 x 11	

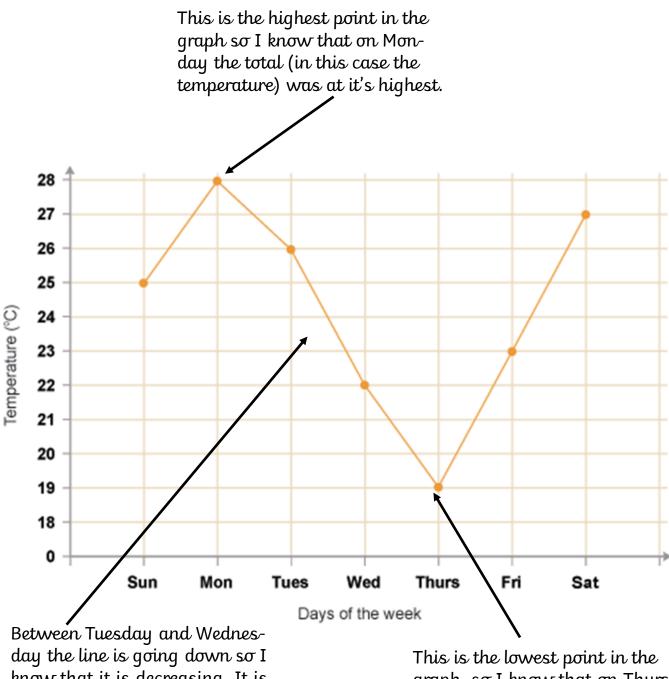
Date										
Subject/s	Maths									
Learning Objective										
	To read line graphs									
				SA	ТА					
Success Criteria		xis is usually the time								
✓! 🗏	I know the y axis is I know that a horizo									
Support	Independent	Adult Support ()	Group Work							
Pre-task:										
How many children got the award on day 9? How many more children got the award on day 1 than on day 7?	30 10 12 12 12 12 12 12 12 12 12 12									
How many awards were h days? Which days were no awar		r over the first 5								

<u>Teacher Led</u>

https://www.youtube.com/watch?v=0WkqfJBfXic&safe=active

Line graphs are continuous data that are always about time. It could be time in hours, minutes, days, months or years etc.

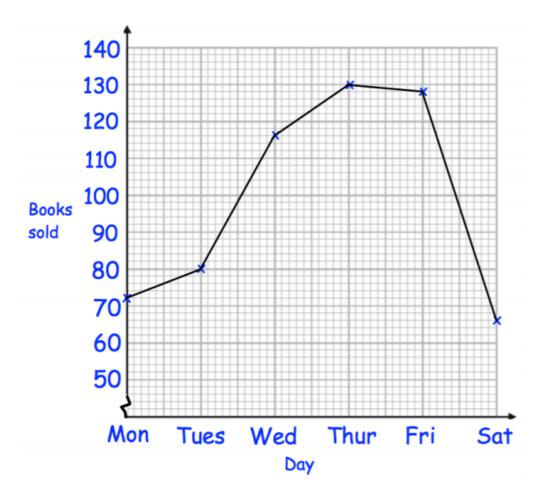
The steepness of the lines tell you information about how quick the total (y axis) changes.



know that it is decreasing. It is also a very steep line which shows it has decreased by a large amount. This is the lowest point in the graph, so I know that on Thursday the total (in this case temperature) was at it's lowest)

Fluency

1. Below is a line graph that shows how many books are sold in a charity shop over one week.

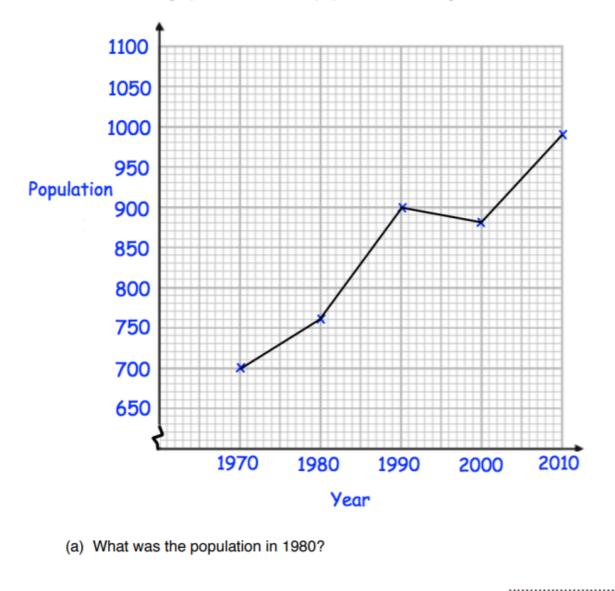


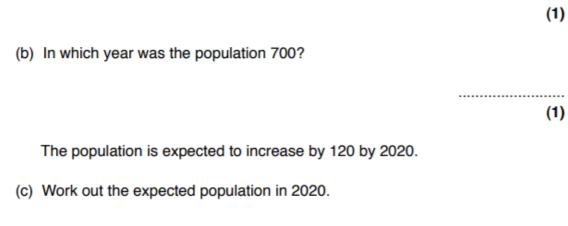
(a) On which day did the charity shop sell the most books?

(b) On which day did the charity shop sell the least books? (1) (c) How many books were sold on Tuesday?

(1)

2. Below is a line graph that shows the population of a village.



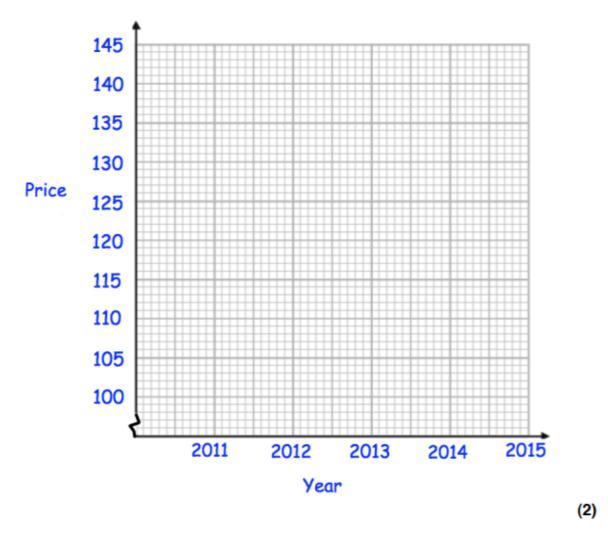


(2)

3. The table shows the average price of unleaded petrol in England over 5 years.

Year	Price in pence
2011	111
2012	128
2013	133
2014	132
2015	108

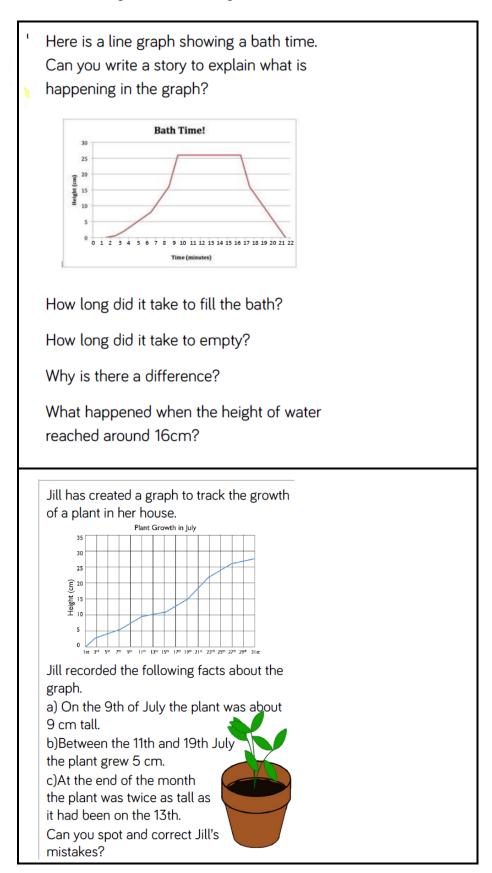
(a) Draw a line graph for the data



(b) Between which two consecutive years did the price increase the most?

..... and (1)

\vdash												

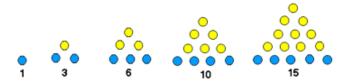


Further Challenge

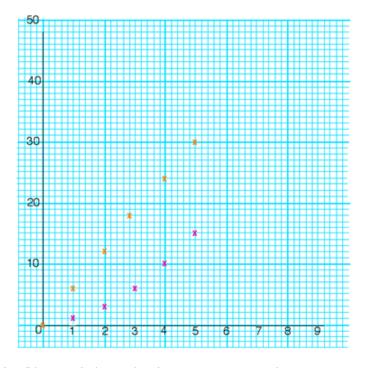
The class were making number patterns and then making graphs of them.

Several children had plotted graphs of the "times tables". They made good-looking straight lines.

Tom had started on the six times table but had then decided to do something more interesting. He had made the triangular numbers with counters last year. That was a better idea, he thought.



So he started to put them on the same graph paper as the unfinished six times table.



"It's not a very good straight line," he remarked to Andy who was sitting next to him.

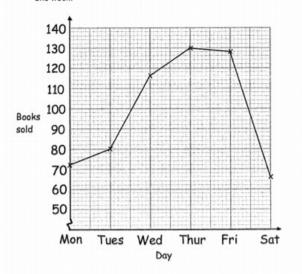
"I think it's going to cross the six times line," answered Tom, "But you'll have to make a lot more of both of them. I'm going to try square <u>numbers,</u> I bet the tables one will cross that!"

Does the graph of the triangular numbers cross that of the six times table? And if it does, where?

Does the graph of square numbers cross those of the times tables? And if it does, where?

Answers

 Below is a line graph that shows how many books are sold in a charity shop over one week.

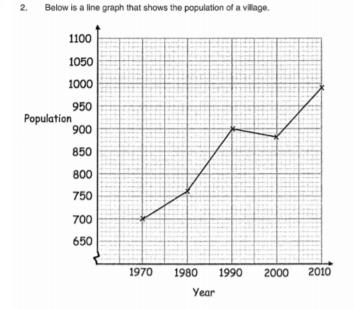


(a) On which day did the charity shop sell the most books?

(b) On which day did the charity shop sell the least books?

80

(c) How many books were sold on Tuesday?



(a) What was the population in 1980?

(b) In which year was the population 700?

1970

The population is expected to increase by 120 by 2020.

(c) Work out the expected population in 2020.

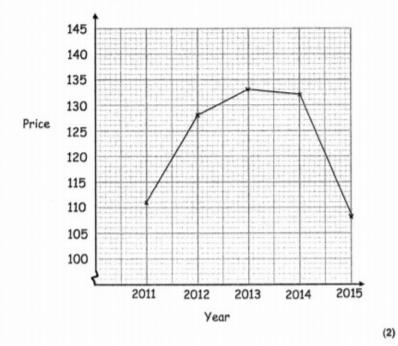
$$2010 - population is 940$$

 $990 + 120 = 1110$
(2)

3. The table shows the average price of unleaded petrol in England over 5 years.

Year	Price in pence
2011	111
2012	128
2013	133
2014	132
2015	108

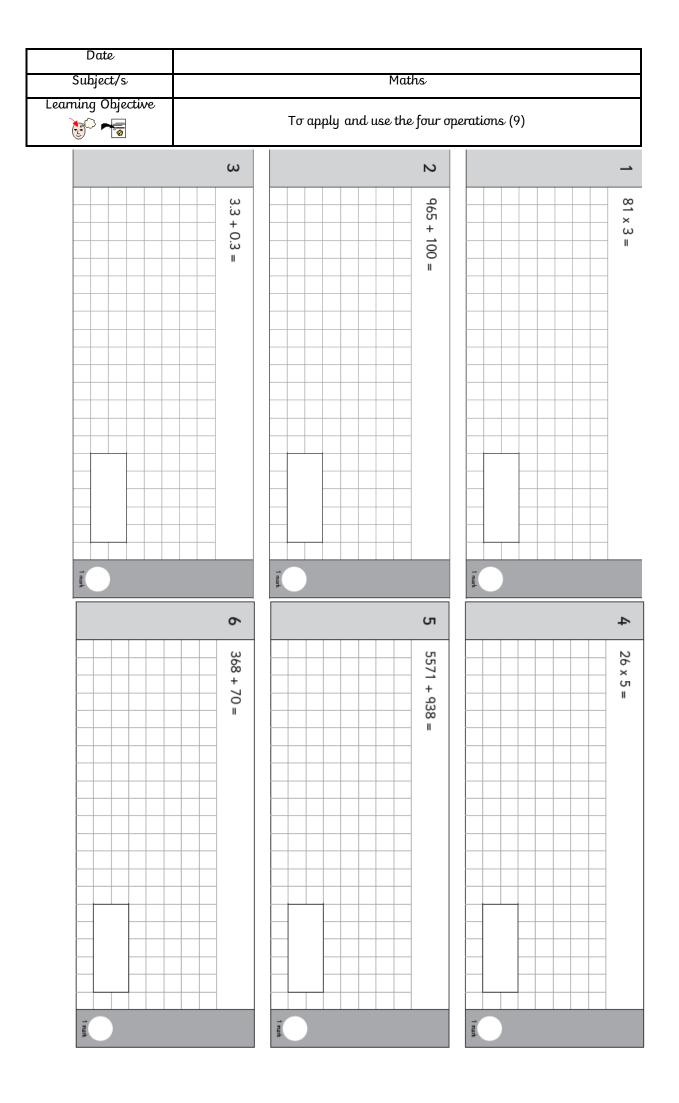
(a) Draw a line graph for the data

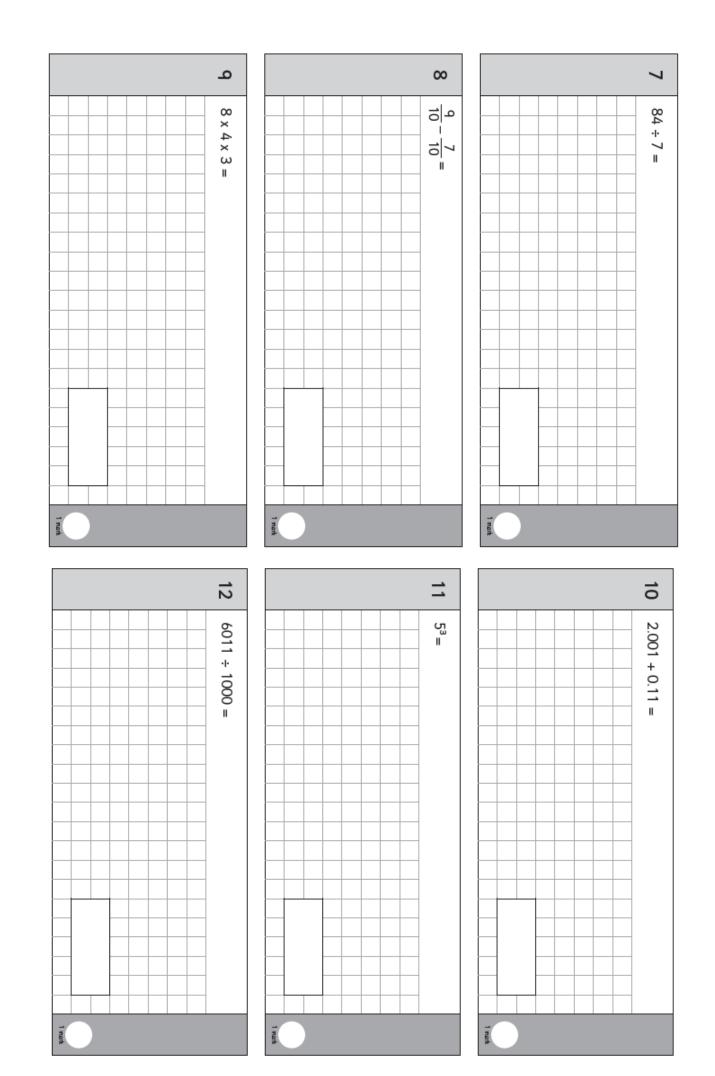


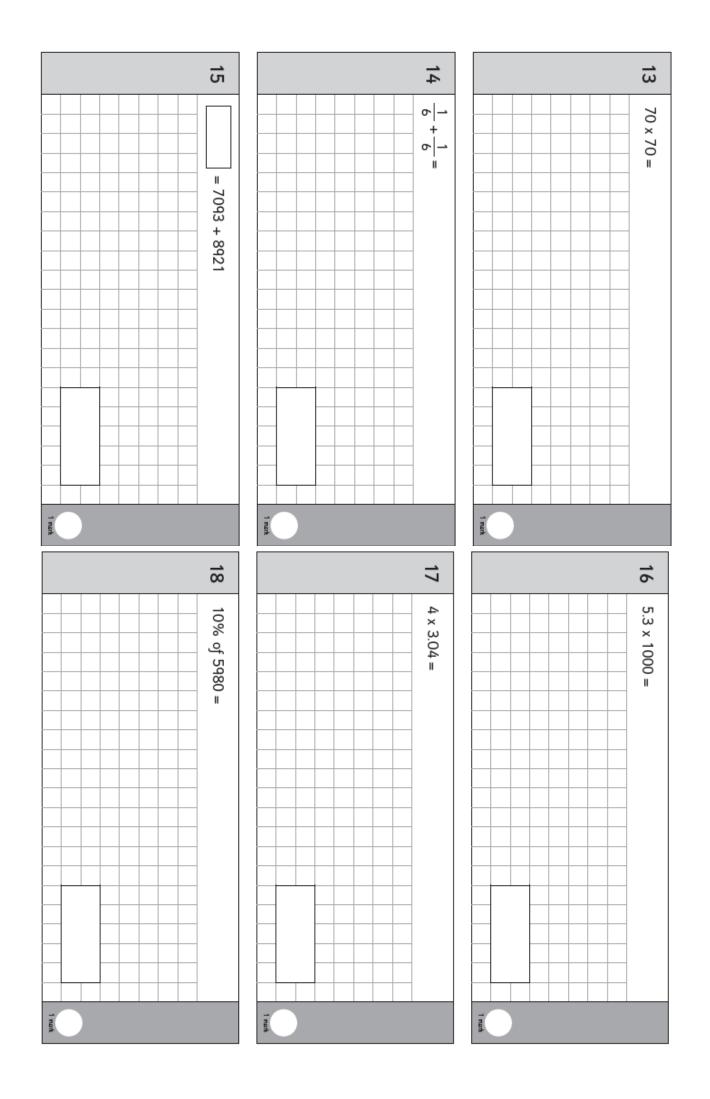
(b) Between which two consecutive years did the price increase the most?

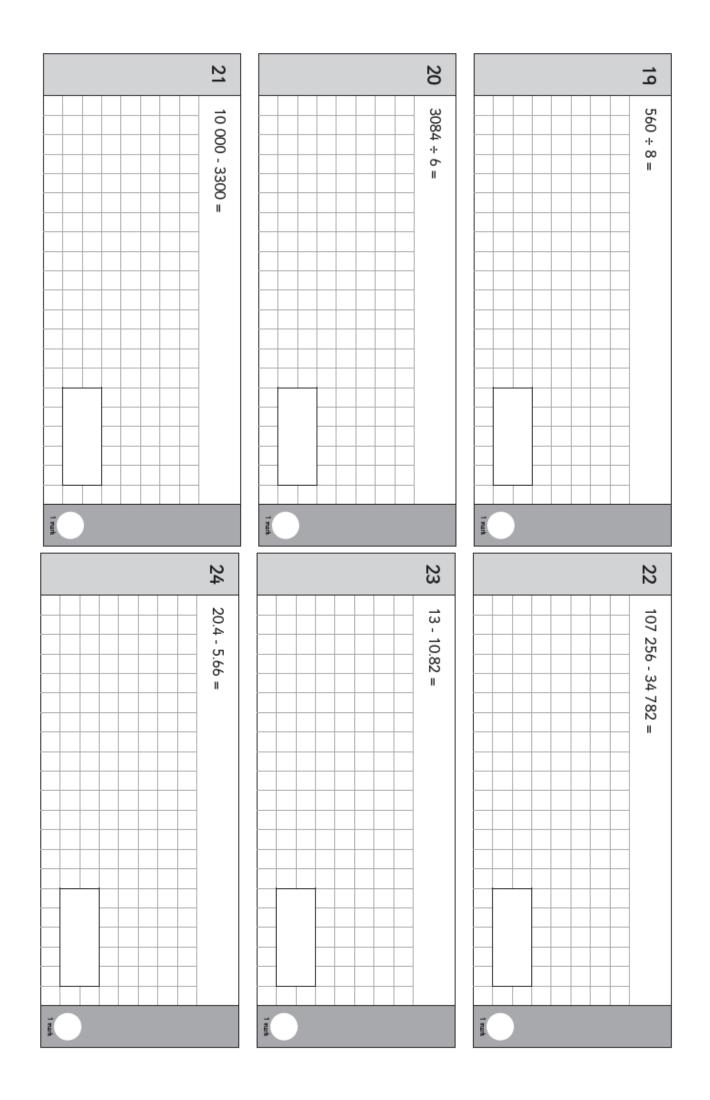
Answers	
Discussions around what happens to the water level when someone gets in the bath would be useful. 8 mins to fill the bath 4 mins to empty One or two taps could be used to fill.	
Someone got in the bath so the water level was raised.	
 a) On the 9th July a more accurate measurement would be 7.5 cm. b) Correct. c) On the 31st the plant was approximately 28 cm tall, but on the 13th it was only 10 cm which is not half of 28 cm. The plant was closer to 14 cm on the 17th July. 	

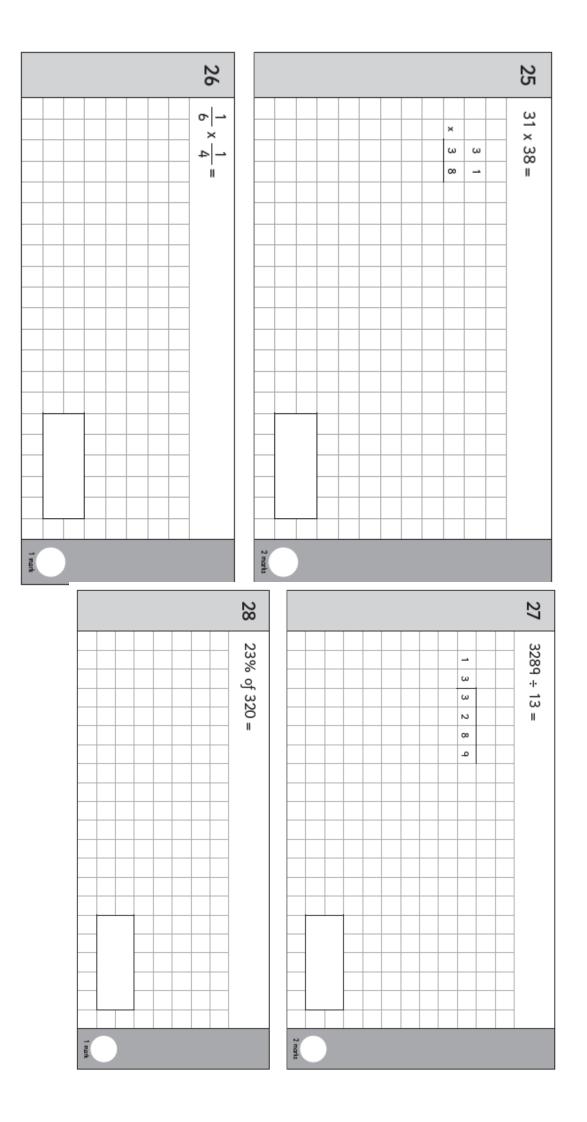
Date								
Subject/s Learning Objective	Maths							
	To recall and use multiplication and division facts							
2 × 2 =	3 × 3 =	4 × 4 =	$11 \times 10 =$					
3 × 5 =	6 × 8 =	7 × 5 =	10 × 2 =					
4 × 6 =	12 × 5 =	8 × 12 =	3 × 12 =					
7 × 4 =	8 × 6 =	10 × 11 =	4 × 9 =					
10 × 10 =	10 × 12 =	4 x 2 =	5 x 7 =					
9 × 3 =	11 × 2 =	10 × 3 =	9 × 8 =					
7 x 2 =	3 × 9 =	6 × 8 =	$10 \times 7 =$					
11 × 3 =	4 × 11 =	12 × 10 =	7 x 8 =					
10 × 5 =	2 × 5 =	2 × 11 =	4 × 3 =					
2 × 4 =	6 × 10 =	8 × 3 =	12 × 4 =					
5 × 6 =	10 × 9 =	3 × 4 =	5 x 8 =					
7 × 10 =	2 × 12 =	4 × 5 =	8 × 8 =					
9 × 2 =	5 × 3 =	7 × 8 =	12 × 2 =					
3 × 11 =	9 × 4 =	8 × 10 =	5 × 4 =					
10 × 4 =	5 × 5 =	2 × 8 =	9 × 5 =					
8 × 5 =	8 × 8 =	= 0 × 8	8 × 11 =					
9 × 8 =	9 × 10 =	4 × 12 =	2 × 10 =					
4 × 10 =	5 × 2 =	12 × 8 =	4 × 7 =					
3 × 2 =	6 × 3 =	3 × 6 =	11 × 5 =					
7 × 3 =	6 × 4 =	5 × 10 =	2 × 3 =					
4 × 8 =	5 × 11 =	8 × 2 =	8 × 9 =					
5 × 9 =	2 × 6 =	3 × 7 =	8 x 4 =					
12 × 8 =	3 × 10 =	11 × 4 =	11 × 8 =					
2 × 9 =	2 × 7 =	5 × 12 =	12 × 3 =					
10 × 8 =	3 × 8 =	0 × 4 =	8 x 7 =					

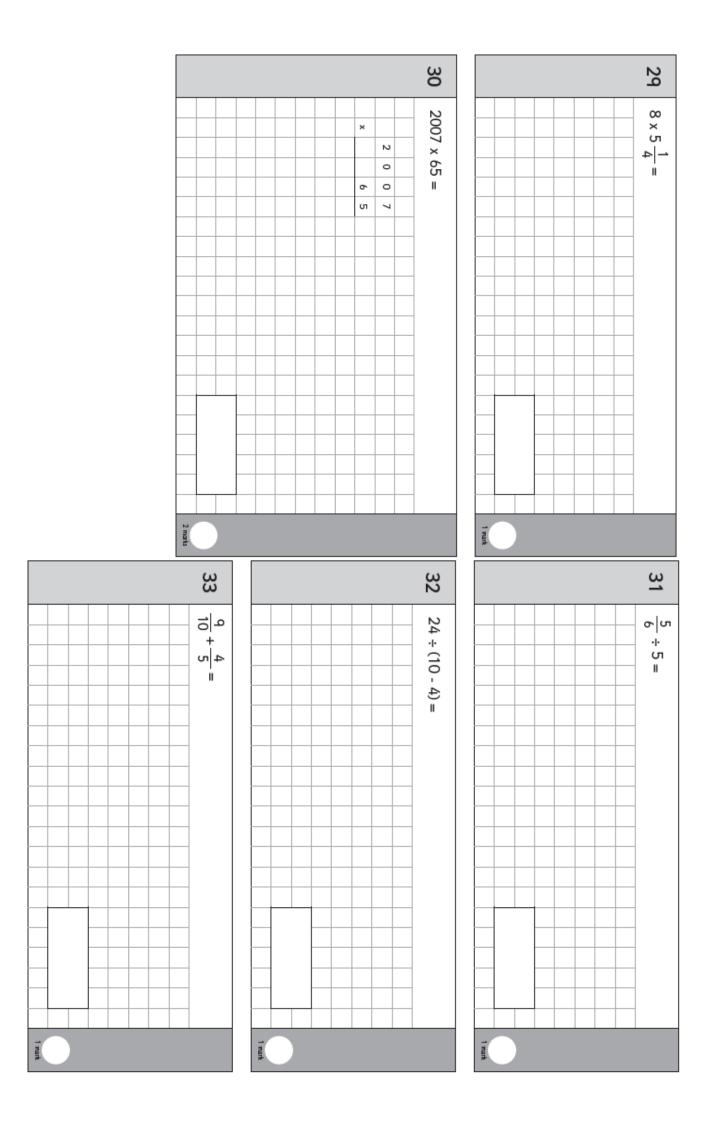


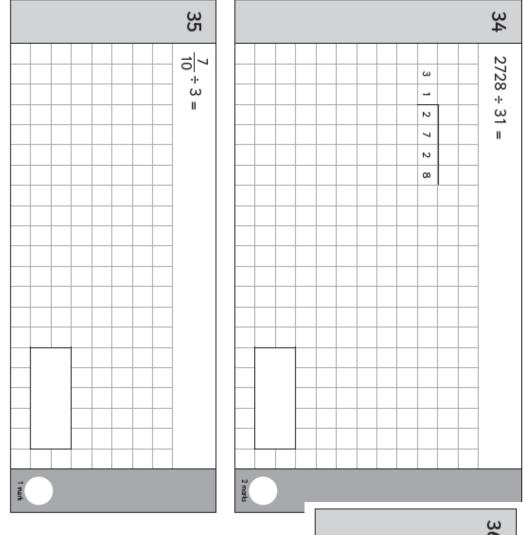


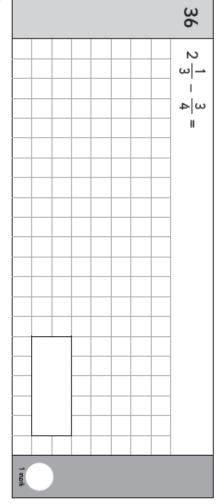












Answers

question	answer	marks
1	243	1
2	1065	1
3	3.6	1
4	130	1
5	6509	1
6	438	1
7	12	1
8	- <u>1</u> or <u>2</u> 5 or <u>10</u>	1
9	96	1
10	2.111	1
11	125	1
12	6.011	1
13	4900	1
14	$\frac{1}{3}$ or $\frac{2}{6}$	1
15	16014	1
16	5300	1
17	12.16	1
18	598	1
19	70	1
20	514	1
21	6700	1

question	answer	marks
22	72 474	1
23	2.18	1
24	14.74	1
25	1178	2
26	<u>1</u> 24	1
27	253	2
28	73.6	1
29	42	1
30	130 455	2
31	<u> 1 6 </u>	1
32	4	1
33	1 .7 10	1
34	88	2
35	<u>7</u> 30	1
36	1 7 12	1
		Total 40