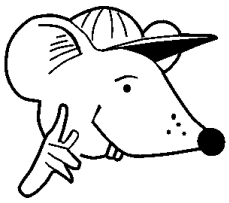
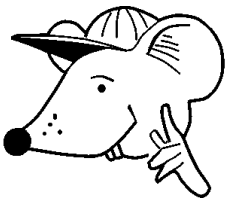
Back to Previous Menu



MATHEMATICS



Number Booster Pages

Equipment

Paper, pencil.

MathSphere

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Structure

The questions in this module provide practice in the type of questions found in the topic of NUMBER for levels 3 and 4 in the NCT test papers (SATs).

They are designed to help children who are hesitant around the level 3/4 boundary and who could be given a better chance to obtain level 4 with suitable extra practice.

The difficulty of the questions generally increases as children progress from the beginning of the module to the end.

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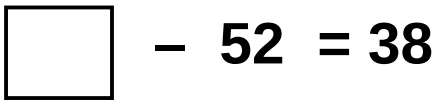
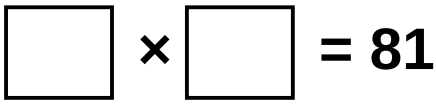
1) Write four digits in the boxes.
Put one digit in each box.

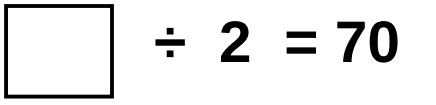
2) Write the digits **6, 3, 4, 9** in the boxes.
Put one digit in each box.

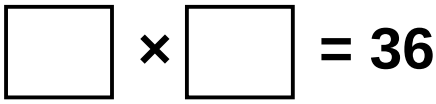
3) Write numbers in the boxes to make the statements true.

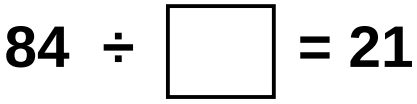




4) Write numbers in the boxes to make the statements true.







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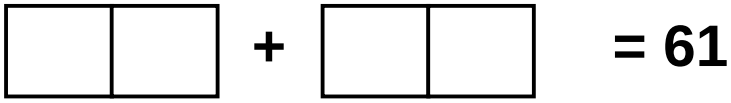
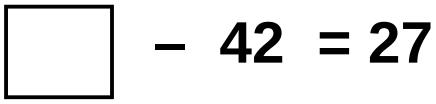
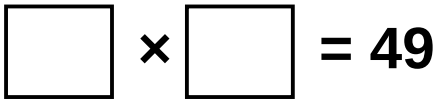
1) Write four digits in the boxes.
Put one digit in each box.



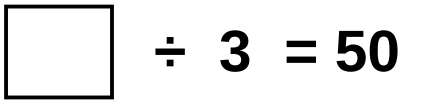
2) Write the digits **8, 5, 6, 2** in the boxes.
Put one digit in each box.

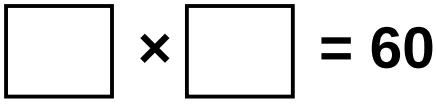
3) Write numbers in the boxes to make the statements true.

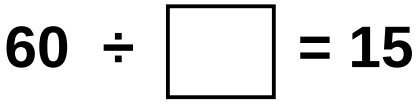




4) Write numbers in the boxes to make the statements true.







1) Write numbers in the boxes to make the statements true.

(4 ×5) + ☐ **= 30**

(6 ×4) – ☐ **= 16**

☐ **– (3 ×7) = 40**

2) Put the digits **7**, **3** and **4** in the boxes to complete this sum.

☐☐ **+** ☐ **= 41**

3) Put all the digits **9**, **2** and **4** in the boxes to complete this sum.

☐☐ **–** ☐ **= 15**

4) Put all the digits **6**, **2**, **5** and **4** in the boxes to complete this sum.

☐☐ **+** ☐☐ **= 71**

5) Say what the missing numbers could be.

50 – ☐ **–** ☐ **= 15**

6) Say what the missing numbers could be.

☐ **– 15 –** ☐ **= 32**

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1) Write numbers in the boxes to make the statements true.

$(2 \times 7) + \square = 23$

$(8 \times 5) - \square = 23$

$\square - (2 \times 8) = 16$

2) Put all the digits **9**, **2** and **5** in the boxes to complete this sum.

$\square\square + \square = 61$

3) Put all the digits **3**, **7** and 4 in the boxes to complete this sum.

$\square\square - \square = 69$

4) Put all the digits **5**, **8**, **3** and **2** in the boxes to complete this sum.

$\square\square + \square\square = 63$

5) Say what the missing numbers could be.

$60 - \square - \square = 23$

6) Say what the missing numbers could be.

$\square - 21 - \square = 40$

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1) Give two possible answers to this sum.

$\square + \square + \square = 800$

$\square + \square + \square = 800$

2) Write in the missing numbers.

$\square \times 15 = 150$

$\square \times 4 = 48$

$23 \times 6 = \square$

$40 \div \square = 8$

3) What are missing digits? Write one in each box.

$\square\square\square \div 10 = 34$

$420 \div \square = 42$

4) Say what the missing numbers might be.

$\square \times \square = 90$

1) Give two possible answers to this sum.

$\square + \square + \square = 450$

$\square + \square + \square = 450$

2) Write in the missing numbers.

$\square \times 12 = 240$

$\square \times 3 = 33$

$16 \times 4 = \square$

$45 \div \square = 5$

3) What are missing digits? Write one in each box.

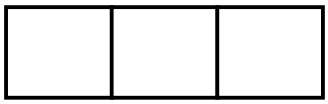
$\square\square\square \div 10 = 28$

$560 \div \square = 56$

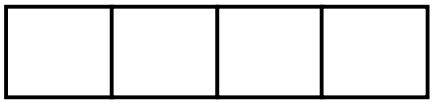
4) Say what the missing numbers might be.

$\square \times \square = 64$

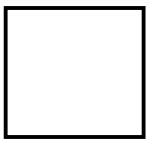
1) Put the digits **1**, **4** and **6** in the boxes to make a number **between 300 and 500**.

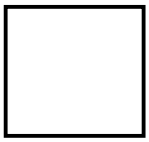


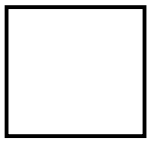
2) Put the digits **2**, **4, 7** and **9** in the boxes to make a number **between 5 000 and 8 000**.

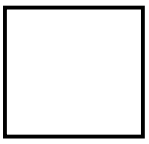


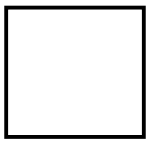
3) Write in the missing numbers:

 **+ 63 = 81**

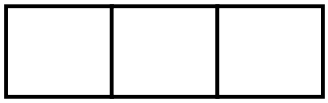
 **+ 27 = 55**

3 × 21 = 

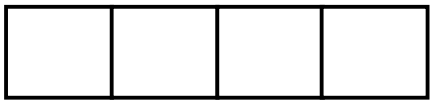
70 –  **= 38**

52 –  **= 46**

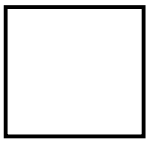
1) Put the digits **6**, **1** and **5** in the boxes to make a number **between 600 and 700**.

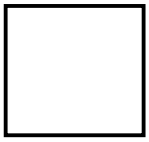


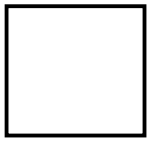
2) Put the digits **3**, **2, 8** and **7** in the boxes to make a number **between 8 000 and 9 000**.

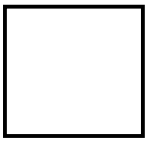


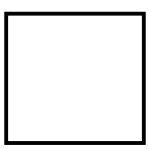
3) Write in the missing numbers:

 **+ 25 = 42**

 **+ 16 = 85**

4 × 15 = 

90 –  **= 22**

85 –  **= 29**

1) Michael has some pieces of paper with numbers written on them.

He points to one piece of paper.
He says 'If I divide the number on this piece of paper by **seven**, the answer is **three**.'

What number is on the piece of paper? ☐

He points to a different piece of paper.
He says 'If I multiply the number on this piece of paper by **five**, the answer is **forty**.'

What number is on this piece of paper? ☐

2) Write what you think the missing numbers might be:

This is an **even number** between **7** and **19**. ☐

This number is a **multiple of seven** and a **multiple of five**. ☐

3) What could the missing digits be?

674 – 3☐3 = 37☐

41☐ + ☐59 = 777

1) Jeffrey has some pieces of paper with numbers written on them.

He points to one piece of paper.
He says 'If I multiply the number on this piece of paper by **eight**, the answer is **thirty-two**.'

What number is on the piece of paper? ☐

He points to a different piece of paper.
He says 'If I **square** the number on this piece of paper, the answer is **sixty-four**.'

What number is on this piece of paper? ☐

2) Write what you think the missing numbers might be:

This is an odd number between **10** and **24**. ☐

This number is **divisible by six** and **bigger than 40**. ☐

3) What could the missing digits be?

593 – 2☐5 = 36☐

57☐ + ☐86 = 759

1) Michelle has eight cards with numbers written on them. She arranges them in a square pattern with a blank card in the middle.

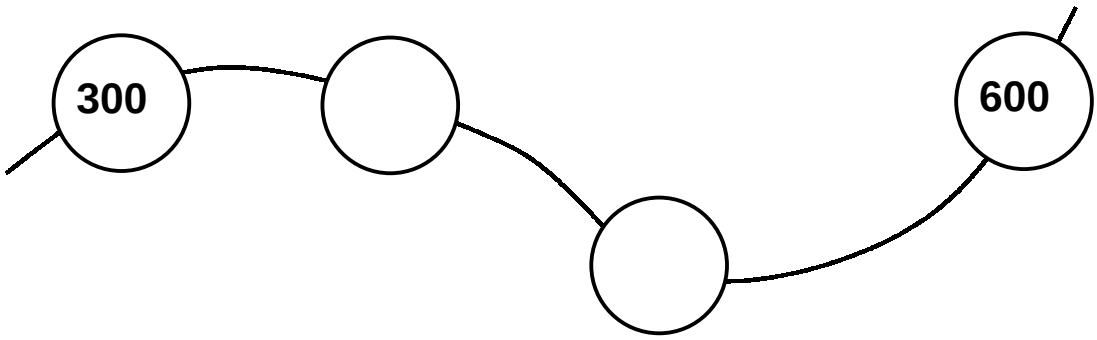
	70	10
40	30	

Each side of the square should add up to **110**.

What are the missing numbers?

Put them in the correct boxes.

2)



Put two numbers in the empty circles so that the total of all the numbers is **1 200**.

3) Put the **missing signs** in the boxes to make the sums true.

6 × 9 – 5 ☐ 11 = 60

15 ☐ 3 ☐ 8 = 13

1) Yasmin has eight cards with numbers written on them. She arranges them in a square pattern with a blank card in the middle.

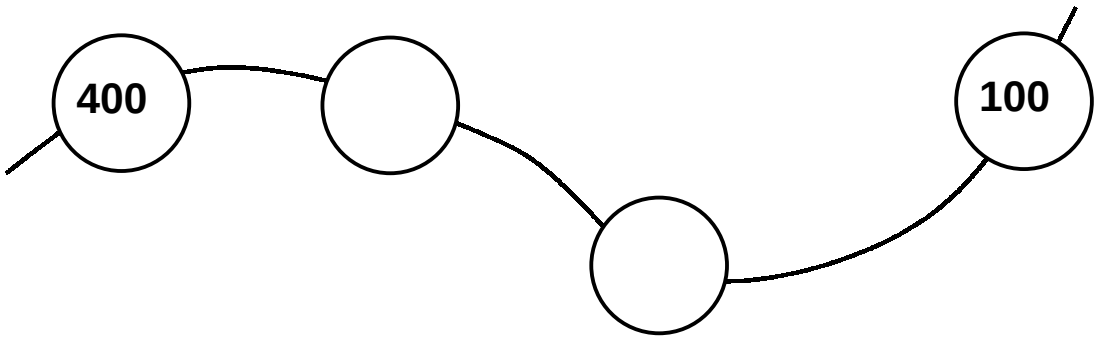
20		**50**
20		
	10	**30**

Each side of the square should add up to **90**.

What are the missing numbers?

Put them in the correct boxes.

2)



Put two numbers in the empty circles so that the total of all the numbers is **900**.

3) Put the **missing signs** in the boxes to make the sums true.

5 × 7 – 3 ☐ 4 = 36

2 ☐ 4 ☐ 6 = 14

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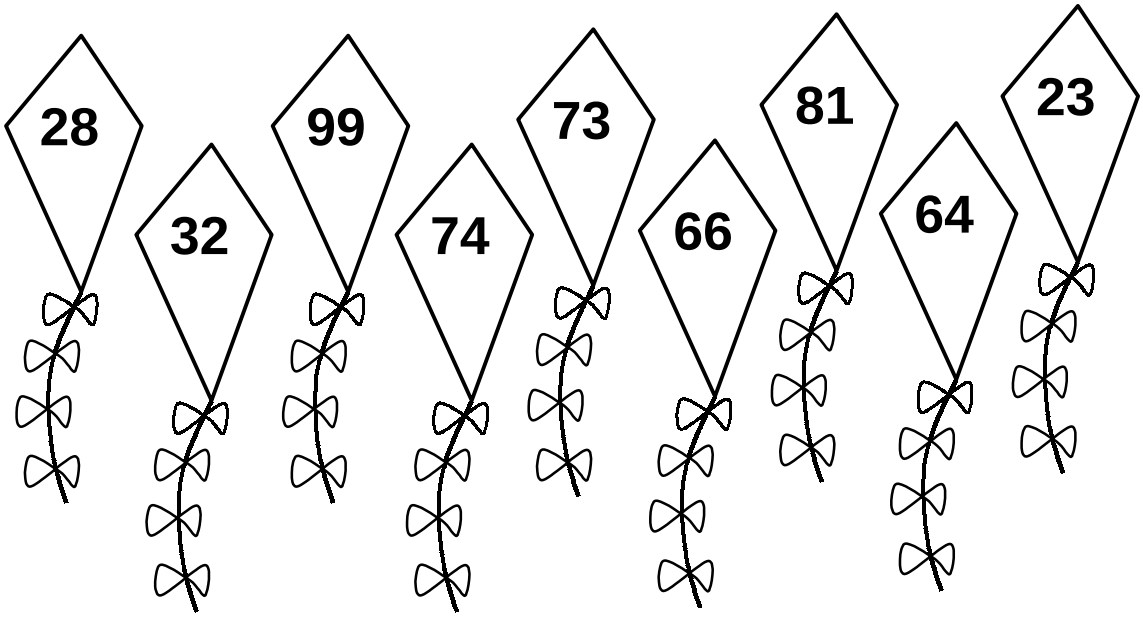
1)

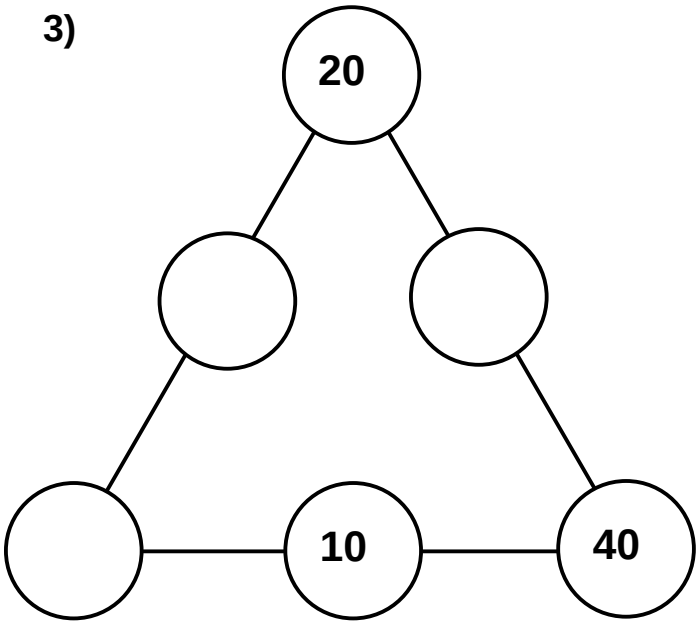


Put a circle round two numbers that **add up to 140.**

2) Put in the missing digit:

$$\begin{array}{r} 4\square \\ \times\ 6 \\ \hline 276 \end{array}$$

3)



The numbers on each edge of the triangle should **add up to 100**.

Put numbers in the empty circles to make this true:

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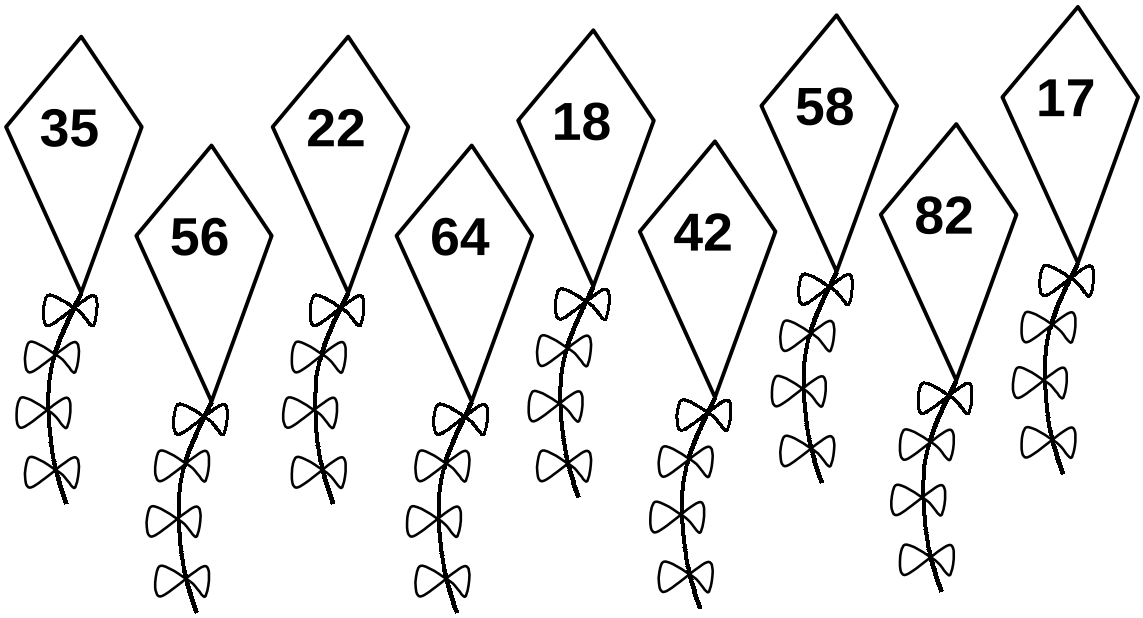
1)

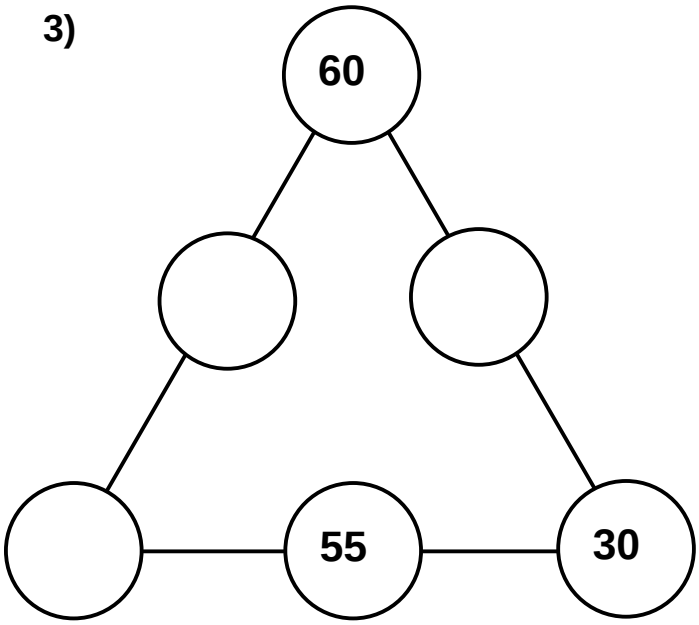


Put a circle round two numbers that **add up to 99.**

2) Put in the missing digit:

$$\begin{array}{r} 3\square \\ \times\ 7 \\ \hline 273 \end{array}$$

3)



The numbers on each edge of the triangle should **add up to 125**.

Put numbers in the empty circles to make this true:

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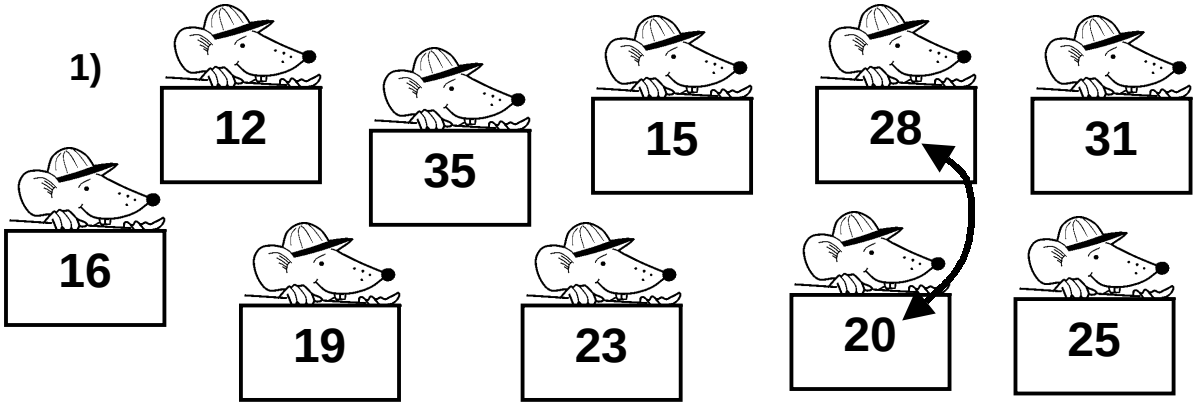
1)



The arrow joins two numbers with a **difference of 8**.

Join two more numbers that have a **difference of 8**.

2) Draw a ring round **two** numbers that are **next to each other** and **add up to 15.**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

3) Draw a ring round **three** numbers that are **next to each other** and **add up to 21.**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

4) What is the next number in this sequence?
The rule is **'multiply by 3 and add 2'.**

1 → 5 → 17 → ☐

5) What is the rule for this sequence?

1 → 4 → 10 → 22 → 46

_____

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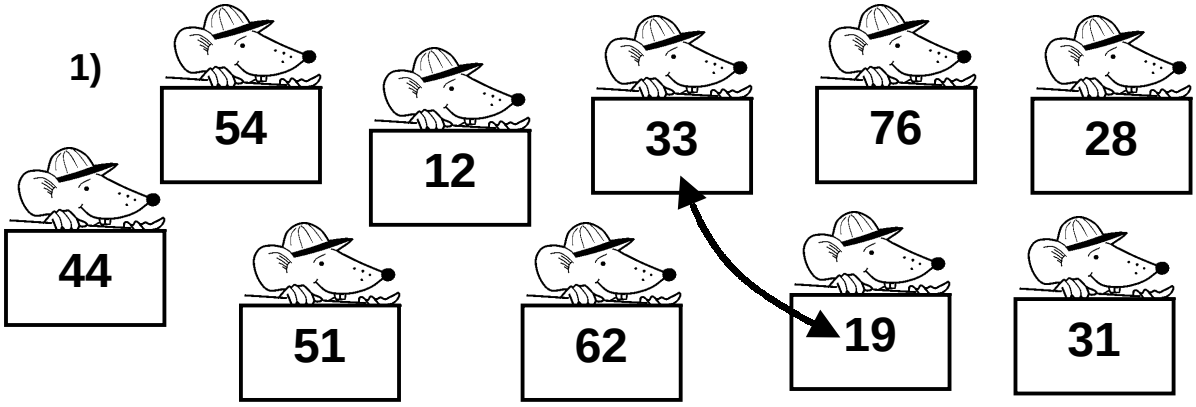
1)



The arrow joins two numbers with a **difference of 14**.

Join two more numbers that have a **difference of 14**.

2) Draw a ring round **two** numbers that are **next to each other** and **add up to 31.**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

3) Draw a ring round **three** numbers that are **next to each other** and **add up to 36.**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

4) What is the next number in this sequence?
The rule is **'multiply by 2 and add 3'.**

5 → **13** → **29** → ☐

5) What is the rule for this sequence?

3 → **9** → **27** → **81** → **243**

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1)

3	6	+			–	9	=	39

Put digits on the calculator buttons to make the calculation true.

2) Which of these numbers are exact **multiples of 6** ?
Put a circle round each one that is.

14, 18, 23, 30, 36, 56, 62, 72, 90

3) What are the next two numbers in this sequence?

4, 8, 7, 11, 10, 14, 13, 17, 16, 20, 19, _____, _____

4) A square has a perimeter of **48 cm**. What is the length of one of its sides?

cm

5) Which of these numbers **divide by 5** with no remainder? Circle them.

12, 35, 45, 50, 60, 65, 73, 80, 98, 100, 112, 120

6) Which of these numbers is the **square root of 25** ? Circle it.

2, 3, 4, 5, 65, 125, 625

7) Add together **twenty nine**, **fifty** and **sixty three**.

1)

4	5	+			–	7	=	53

Put digits on the calculator buttons to make the calculation true.

2) Which of these numbers are exact **multiples of 7** ?
Put a circle round each one that is.

12, 14, 21, 28, 32, 44, 63, 70, 80

3) What are next two number in this sequence?

3, 6, 7, 14, 15, 30, 31, 62, 63, _____, _____

4) A square has a perimeter of **60 cm**. What is the length of one of its sides?

cm

5) Which of these numbers **divide by 10** with no remainder? Circle them.

18, 39, 40, 53, 56, 60, 72, 99, 130, 164, 200, 1 000

6) Which of these numbers is the **square root of 49** ? Circle it.

5, 7, 12, 24.5, 77, 700, 2 401

7) Add together **forty-two**, **fifty-nine** and a **hundred and four**.

1) Four girls run a relay race of **200m**. How far do they run each?

m

2) The results of a race are:

Name	Time (Seconds)
Jenny	65.5
Fiona	66.8
Farzin	58.9
Jerry	74.1
Tom	66.7
Henriette	65.7

Who ran the fastest time in the race?

How much faster was Henriette than Tom?

Secs

3) Subtract **forty-five** from **sixty-seven**.

4) What is three times **one hundred and fifty**?

5) What do you have to add to **sixty** to make **one hundred and five**?

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1) Three Maths Rats run a relay race of **270m**. How far do they run each?

m

2) The results of a race are:

Name	Time (Seconds)
Frederick	42.3
Simon	51.8
Zeba	44.7
Ellie	50.0
Kenneth	51.8
Mike	48.6

Who ran the fastest time in the race?

Which two people ran the same times?

3) Subtract **fifty-four** from **eighty-one**.

4) What is four times **sixty-five**?

5) What do you have to add to **eighty-three** to make **one hundred?**

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1) Addy and Divvy are playing a game with numbers.

Addy has to guess Divvy's number.

Is it **less than 40** ? **Yes**
Is it a **multiple of 3** ? **Yes**
Is it a **multiple of 11** ? **Yes**

What is Divvy's Number? ☐

They play the game again.

Is it **less than 25** ? **No**
Is it **less than 30** ? **Yes**
Is it a **prime number**? **Yes**

What is Divvy's Number? ☐

Write three questions that will give the number **27**.

_____

_____

_____

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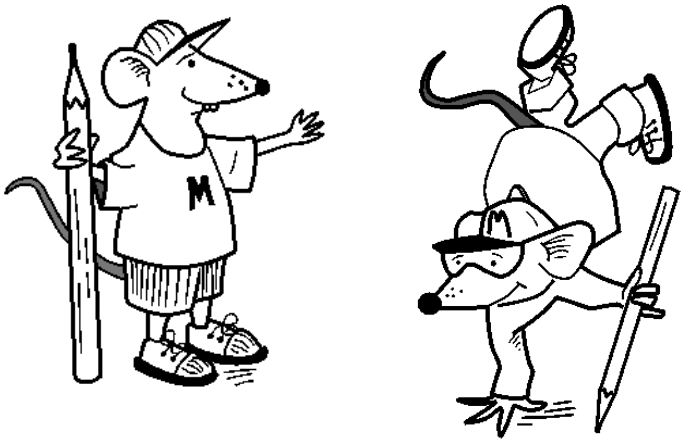
1) Addy and Divvy are playing a game with numbers.

Addy has to guess Divvy's number.



Is it **less than 30** ? **Yes**
Is it **more than 20** ? **Yes**
Is it a **square number** ? **Yes**

What is Divvy's Number? ☐

They play the game again.

Is it **more than 35** ? **No**
Is it **less than 30** ? **No**
Is it a **multiple of 8**? **Yes**

What is Divvy's Number? ☐

Write three questions that will give the number **38**.

_____

_____

_____

1) There are **20** rubbers in a box. How many rubbers are there in **15** boxes?

2) What could the missing digits be to make this statement true?

			÷ 10 =	4	

3) Find the answer to: **714 – 322**

4) Find the answer to: **815 – 553**

5) What could the missing digits be?

		× 4 =	7	

6) Put digits in the boxes so that the three-digit number is a multiple of **7**.

	5	

7) Add **four point eight** to **nine point six**.

8) Subtract **five point four** from **thirteen point two**.

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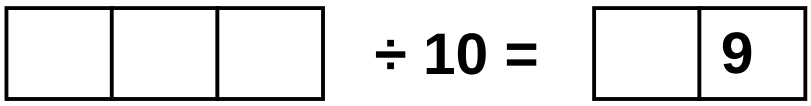
1) There are **36** pens in a box. How many pens are there in **23** boxes?

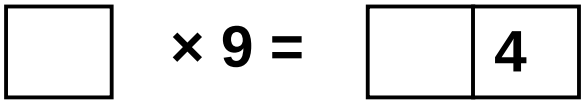
2) What could the missing digits be to make this statement true?



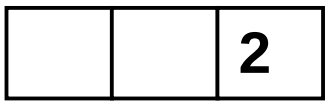
3) Find the answer to: **441 – 277**

4) Find the answer to: **382 – 299**

5) What could the missing digits be?



6) Put digits in the boxes so that the three-digit number is a multiple of **9**.



7) Add **fifteen point three** to **eight point seven**.

8) Subtract **twelve point six** from **fourteen point three**.

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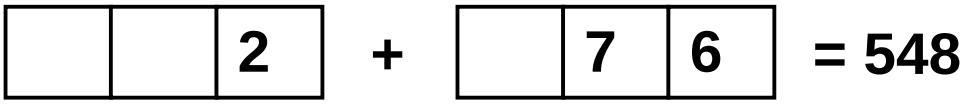
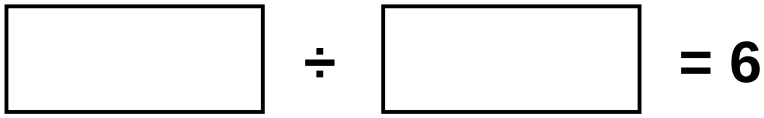
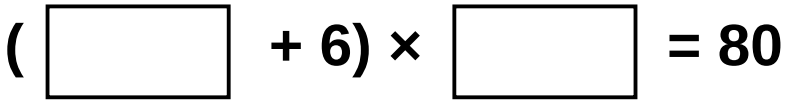
1) Put in the spaces what the missing digits could be:



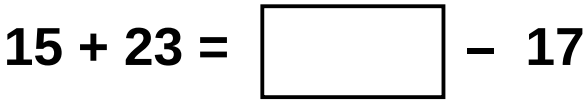
2) Each number in the boxes is greater than **50**. Put numbers in the boxes to make the calculation correct:



3) Put numbers in the boxes to make the calculation true:



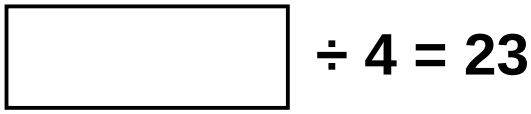
4) Put the correct number in the box:



5) Put one of the digits **6, 8, 3, 5** in each box. Make the number nearest to **4 000**.

6) Calculate **739 × 8**

7) Put in the missing number:



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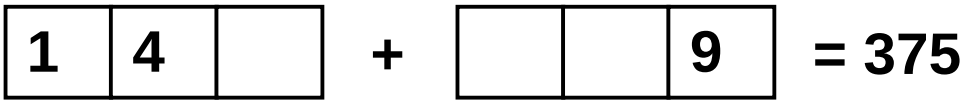
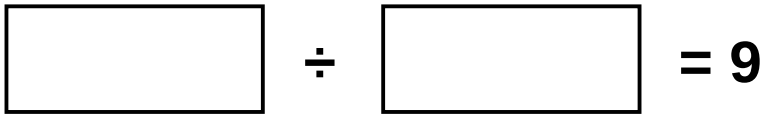
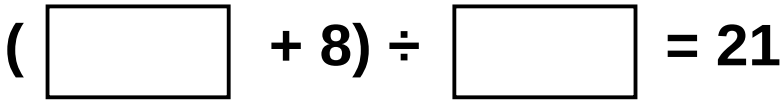
1) Put in the spaces what the missing digits could be:



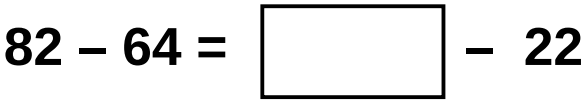
2) Each number in the boxes is greater than **70**. Put numbers in the boxes to make the calculation correct:



3) Put numbers in the boxes to make the calculation true:



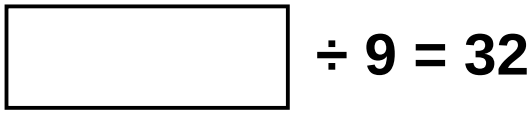
4) Put the correct number in the box:



5) Put one of the digits **4, 9, 6, 8** in each box. Make the number nearest to **7 000**.

6) Calculate **517 × 9**

7) Put in the missing number:



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1) Put the same number in each box to make this true:

$\square \times \square + \square = 72$

2) If x^2 is less than **40** and greater than **20**, what could **x** be? $\square$

3) Write the next two numbers in this sequence:

12, 9, 6, 3, 0, ____, ____

4) Write the first two numbers in this sequence:

____, ____, 64, 32, 16, 8, 4, 2, 1,

5) Put one of the signs **+, –, × or ÷** in the box to make this true:

3 □ 5 + 7 = 22

6) Put a number in the box to make this true:

□ ÷ 2 – 7 = 12

7) Write down two prime numbers between **50** and **60**.

□ **and** □

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1) Put the same number in each box to make this true:

$\square \times \square + \square = 132$

2) If $\mathbf{m^2}$ is less than **80** and greater than **60**, what could **m** be? $\square$

3) Write the first two numbers in this sequence:

____, ____, 20, 15, 10, 5, 0,

4) Write the next two numbers in this sequence:

64, 32, 16, 8, 4, 2, 1, ____, ____,

5) Put one of the signs **+, –, × or ÷** in the box to make this true:

$8 \square 2 - 9 = {}^{-}5$

6) Put a number in the box to make this true:

$(\square + 9) \div 7 = 6$

7) Write down two prime numbers between **40** and **50**.

$\square$ **and** $\square$

1) Children in Miss Smith's class get stars for how well they do in a mathematics test.

Here is the table Mrs Smith uses to award the stars:

Marks	Number of Stars
0 - 10	1
11 - 20	2
21 - 30	3
31 - 40	4
41 - 50	5
51 - 60	6

Tom earned **35** marks on his test. How many stars did Miss Smith award him?

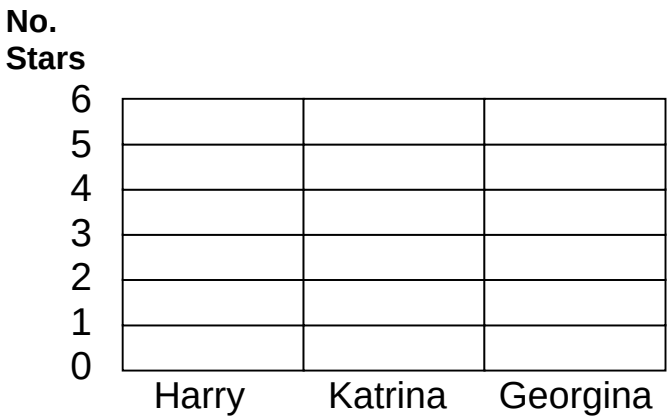
Gregory earned **49** marks on his test and thought he should get **6** stars.

Explain why he was wrong: _____

_____

The children put a bar on a bar chart to show how many stars Miss Smith gave them. Put the bars on the graph for these children:

Harry **34** marks, Katrina **26** marks, Georgina **58** marks.



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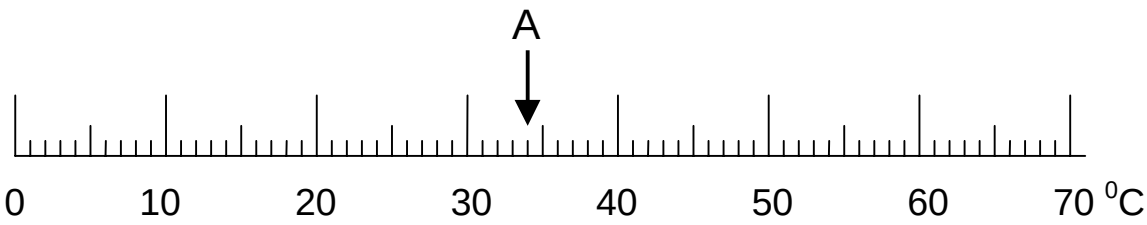
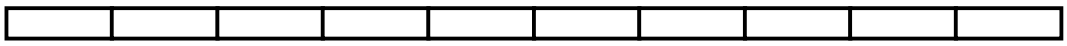
1) Put an arrow pointing to the correct places on the scale for these measurements of temperature. The first one has been done for you.

A 34^0C **B 42^0C** **C 50^0C** **D 57^0C** **E 61^0C**



2)



Shade **20%** of the row of rectangles above.

3) A bridge can just hold a weight of **256 kg**. Some adults come to the bridge. Here are there weights:

Mr Jones	**89.6 kg**
Mrs Green	**74.5 kg**
Mr Dragoon	**96.7 kg**

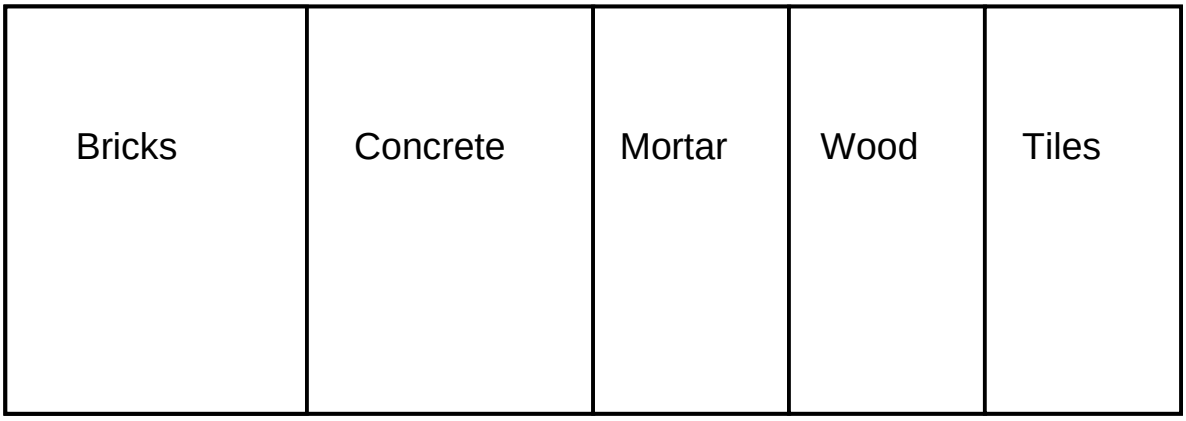
Can all the adults cross the bridge at the same time? You must show your working!

4) **m** stands for a number.

m – 8 = 12

What is the value of **m + 16** ?

1) This diagram represents the proportions of the main materials used to build a house.



Estimate the **fraction** of concrete used in the house.

If **3** tonnes of tiles are used, estimate how many tonnes of bricks are used.

How much do all the materials shown in the diagram weigh?

2) Here is a sequence of numbers. What is the next number in the sequence?

1, 4, 9, 16, 25, 36, _____

Explain how you worked it out.

_____

_____

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1) Two of these fractions are equivalent (they have the same value). Join the two equivalent fractions with a line.

$\frac{1}{3}$	$\frac{6}{8}$	$\frac{2}{5}$	$\frac{5}{10}$	$\frac{8}{14}$

$\frac{2}{10}$	$\frac{3}{4}$	$\frac{5}{8}$	$\frac{2}{9}$

2) Calculate these sums:

3.45 + 2.82 = ☐

8.94 + 5.88 = ☐

0.61 + 1.99 = ☐

7.88 + 6.72 = ☐

3) Which number is halfway between **84** and **176** ? ☐

4) Which number is halfway **between104** and **460** ? ☐

5) If **b + 16 = 22**, what is **2b + 5** ? ☐

1) Join up the fractions in the left column of the table with the percentages of the same value in the right column. One has been done for you.

Fractions	Percentages
$\frac{1}{2}$	80%
$\frac{3}{4}$	70%
$\frac{2}{5}$	40%
$\frac{7}{10}$	75%
$\frac{1}{4}$	$33\frac{1}{3}\%$
$\frac{4}{5}$	50%
$\frac{1}{3}$	25%

2) Calculators are packed into small boxes with **15** calculators in each box. The boxes are put into large cartons to go on the lorries.

One carton holds **180** calculators. How many small boxes are in the Carton?

3) Massoud is thinking of a number.
He says 'If I double my number and add **6**, the answer is **30'**.

What is Massoud's number?

Jenny is thinking of a number.
She says 'If I double my number and add **6** the answer is **25'**.

What is Jenny's number?

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Answers

Page 3

1. Any two numbers that total 56 **2.** 36 + 49 or 39 + 46 **3.** 90, 1 × 81 or 3 × 27 or 9 × 9

4. 140, 1 × 36 or 2 × 18 or 3 × 12 or 4 × 9 or 6 × 6, 4

Page 4

1. Any two numbers that total 61 **2.** 65 + 28 or 68 + 25 **3.** 69, 1 × 49 or 7 × 7

4. 150, 1 × 60 or 2 × 30 or 3 × 20 or 4 ×15 or 5 × 12 or 6 × 10, 4

Page 5

1. 10, 8, 61 **2.** 37 + 4 or 34 + 7 **3.** 24 – 9

4. 45 + 26 or 46 + 25 **5.** Numbers in boxes must total 35, eg. 50 – 20 – 15 = 15

6. Numbers in boxes must have a difference of 47, eg. 80 – 15 – 33 = 32

Page 6

1. 9, 17, 32 **2.** 52 + 9 or 59 + 2 **3.** 73 – 4

4. 25 + 38 or 28 + 35 **5.** Numbers in boxes must total 37, eg. 60 – 20 – 17 = 23

6. Numbers in boxes must have a difference of 61, eg. 90 – 21 – 29 = 40

Page 7

1. Any three numbers that total 800 (twice) **2.** 10, 12, 138, 5

3. 340, 10 **4.** 1 × 90 or 2 × 45 or 3 × 30 or 5 × 18 or 6 × 15 or 9 × 10

Page 8

1. Any three numbers that total 450 (twice) **2.** 20, 11, 64, 9

3. 280, 10 **4.** 1 × 64 or 2 × 32 or 4 × 16 or 8 × 8

Page 9

1. 416 or 461 **2.** Must begin with 7. Any combination thereafter.

3. 18, 28, 63, 32, 6

Page 10

1. 615 or 651 **2.** Must begin with 8. Any combination thereafter.

3. 17, 69, 60, 68, 56

Page 11

1. 21, 8 **2.** One of 8, 10, 12, 14, 16, 18, 35 or any multiple of 35.

3. 674 – 3**0**3 = 371

41**8** + **3**59 = 777

Page 12

1. 4, 8 **2.** One of 11, 13, 15, 17, 19, 21, 23, Any multiple of 6 > 40, eg. 42, 48, 54, 60 ....

3. 593 – 2**2**5 = 36**8**

57**3** + **1**86 = 759

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Answers

Page 13

1.

30	70	10
40		**60**
40	30	**40**

2. Total of missing numbers must be 300

3. $6 \times 9 - 5 \boxplus 11 = 60$ $\quad 15 \div 3 \boxplus 8 = 13$

Page 14

1.

20	**20**	50
20		**10**
50	10	30

2. Total of missing numbers must be 400

3. $5 \times 7 - 3 \boxplus 4 = 36$ $\quad 2 \boxtimes 4 \boxplus 6 = 14$

Page 15

1. 74 and 66 **2.** Missing digit = 6

3.

	20	
	30	**40**
50	10	40

Page 16

1. 35 and 64 or 17 and 82 **2.** Missing digit = 9

3.

	60	
	25	**35**
40	55	30

Page 17

1. 12 and 20 or 15 and 23 or 23 and 31 **2.** 7 and 8

3. 6, 7 and 8 **4.** 53 **5.** Double and add 2 (or equivalent)

Page 18

1. 76 and 62 **2.** 15 and 16

3. 11, 12 and 13 **4.** 61 **5.** Multiply by three

Page 19

1. 12 **2.** 18, 30, 36, 72, 90 **3.** 23, 22 (Add 4 subtract 1) **4.** 12cm

5. 35, 45, 50, 60, 65, 80, 100, 120 **6.** 5 **7.** 142

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Answers

Page 20

1. 15 **2.** 14, 21, 28, 63, 70 **3.** 126, 127 (Double and add 1) **4.** 15cm
5. 40, 60, 130, 200, 1 000 **6.** 7 **7.** 205

Page 21

1. 50m **2.** Farzin 1.0secs **3.** 22 **4.** 450 **5.** 45

Page 22

1. 90m **2.** Frederick Simon and Kenneth **3.** 27 **4.** 260 **5.** 17

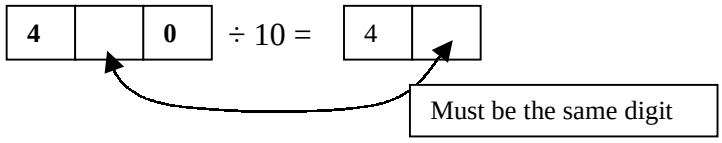
Page 23

1. 33 29 Any three questions leading to 27

Page 24

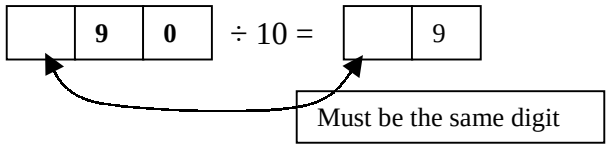
1. 25 32 Any three questions leading to 38

Page 25

1. 300 **2.** 

3. 392 **4.** 262 **5.** **18** × 4 = 7**2** or **19** × 4 = 7**6**
6. Any of: 154, 252, 259, 350, 357, 455, 553, 651, 658, 756, 854, 952, 959
7. 14.4 **8.** 7.8

Page 26

1. 828 **2.** 

3. 164 **4.** 83 **5.** **6** × 9 = **5**4
6. First two digits must add up to 7 (eg 342) or 16 (Eg 892)
7. 24.0 **8.** 1.7

Page 27

1. 072 + 476 or 172 + 376 or 272 + 276 or 372 + 176 or 472 + 076
2. Any numbers greater than 50 with a quotient of 6, eg. 600 ÷ 100 = 6
3. (74 + 6) × 1 = 80 or
(34 + 6) × 2 = 80 or
(14 + 6) × 4 = 80 or
(10 + 6) × 5 = 80 or
(4 + 6) × 8 = 80 or
(2 + 6) × 10 = 80 or
(Other solutions involving fractions or negative numbers are possible, but highly unlikely to appear!)
4. 55 **5.** 3865 **6.** 5912 **7.** 92

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Answers

Page 28

1. 14**6** + **22**9

2. Any numbers greater than 70 with a quotient of 9, eg. 900 ÷ 100 = 9

3. (13 + 8) ÷ 1 = 21 or
(34 + 8) ÷ 2 = 21 or
(55 + 8) ÷ 3 = 21 etc

4. 40 **5.** 6984 **6.** 4653 **7.** 288

Page 29

1. 8 × 8 + 8 = 72 **2.** x = 5 or 6 (either answer) **3.** –3, –6 **4.** 256, 128

5. × **6.** 38 **7.** 53 and 59

Page 30

1. 11 × 11 + 11 = 132 **2.** m = 8 **3.** 30, 25 **4.** $^1/_2$ or 0.5, $^1/_4$ or 0.25,

5. ÷ **6.** 33 **7.** Any two of: 41 and 43 and 47

Page 31

1. 4, Gregory was in the range 41 - 50 which is 5 stars,
bars for 4, 3 and 6 stars respectively.

Page 32

1. Correct arrows for 42, 50, 57, 61 ^{0}C **2.** Shade any two rectangles

3. Total weight = 260.8kg, therefore too heavy for bridge. Working must be shown.

4. 36

Page 33

1. $^1/_4$, $4^1/_2$ tonnes, 18 tonnes **2.** 49, squared numbers or add 3, add 5 etc.

Page 34

1. $^6/_8$ and $^3/_4$ **2.** 6.27, 14.82, 2.6, 14.6

3. 130 **4.** 282 **5.** 17

Page 35

1. $^1/_2$ = 50%, $^3/_4$ = 75%, $^2/_5$ = 40% $^7/_{10}$ = 70%, $^1/_4$ = 25%, $^4/_5$ = 80%
$^1/_3 = 33^1/_3$%

2. 12 **3.** 12, $9^1/_2$ or 9.5