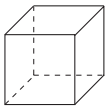
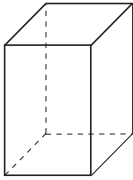

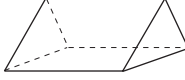
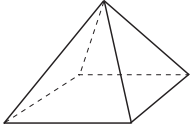




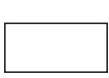


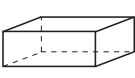




1

Complete the table for these **solids**.

					
Number of faces	6	6	6	5	5
Number of vertices	8	8	8	6	5
Number of edges	12	12	12	9	8

2

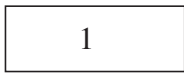
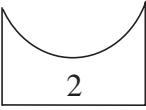
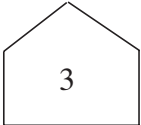
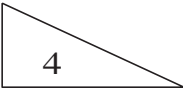

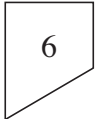
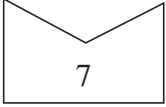


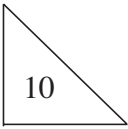
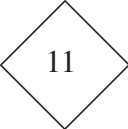
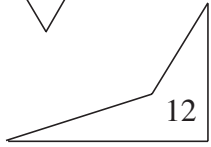
Which shape belongs in which box? Write the numbers in the correct boxes.

1  2  3  4  5  6  7  8  9  10 

Plane shapes: 2, 3, 5, 7, 9, 10
 Rectangles: 2, 3
 Solids: 1, 4, 6, 8
 Quadrilaterals: 2, 3, 9

3

These **plane** shapes were cut out from coloured paper.

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

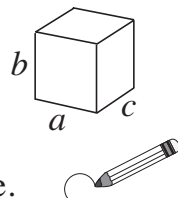
List the numbers of the shapes which are:

- a) quadrilaterals: .. 1, 5, 6, 8, 11, 12
- b) rectangles: .. 1, 8, 11
- c) squares: .. 8, 11

4


How many different **cuboids** can you build from 12 unit cubes?

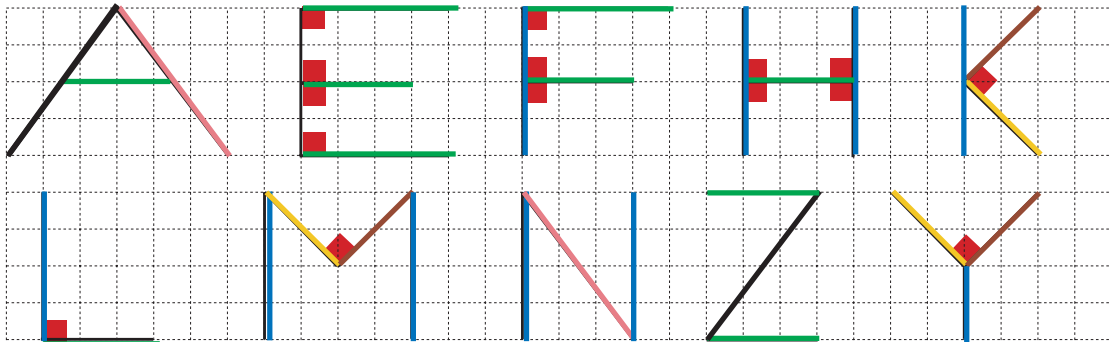
- a) Fill in the table.
- b) Circle the cuboids which have at least one square face.



	Cuboids			
	1	2	3	4
Edge $a =$	1	1	1	2
Edge $b =$	1	2	3	2
Edge $c =$	12	6	4	3

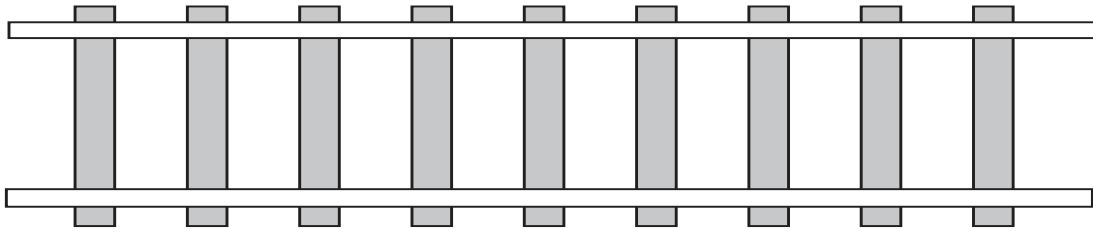
1

- a) Draw over in the same colour the sets of lines which are **parallel**.
Use different colours for different sets.
- b) Colour the square at all the corners which are right angles. 



2

This is part of the track from a model railway.

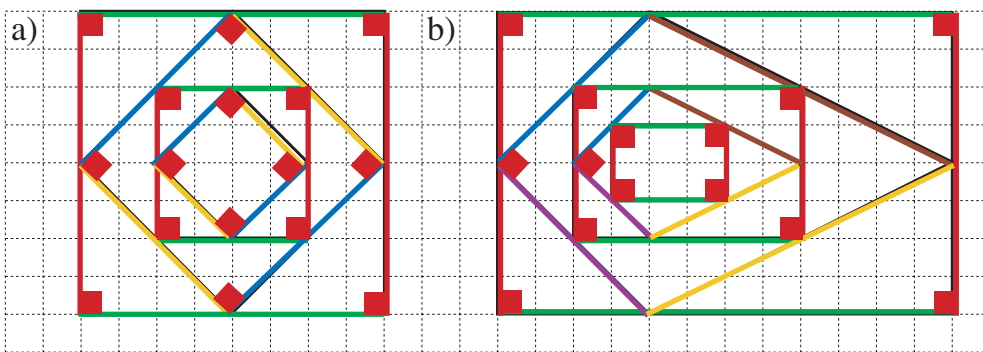


Measure the distance between the two **horizontal** rails.

20 mm

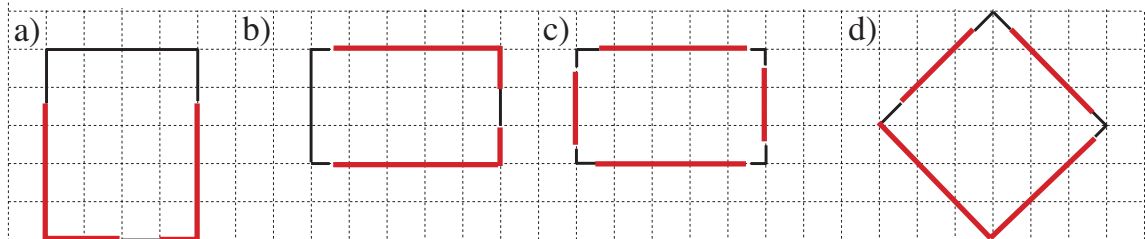
3

Draw over in the same colour the sets of lines which are **parallel**. Use a different colour for each set. Colour the squares at corners which are **right angles**.



4

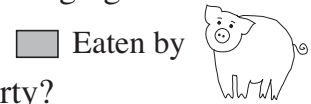
Complete the drawing to make **rectangles**.



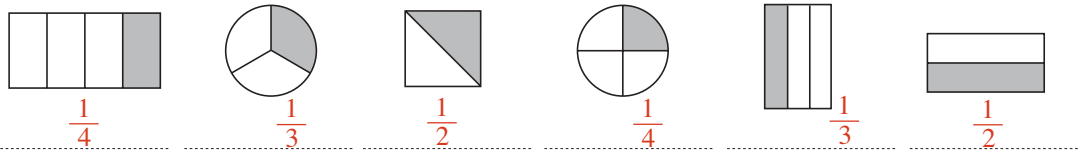
1

Piggy bought different kinds of cakes for a party he was arranging.

a) Piggy wanted to taste each cake right away.

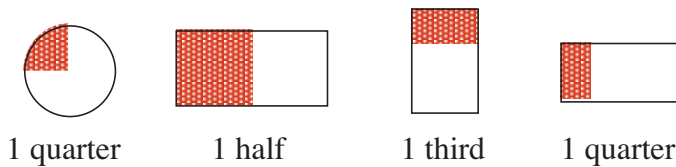


What part of these cakes did Piggy eat before the party?



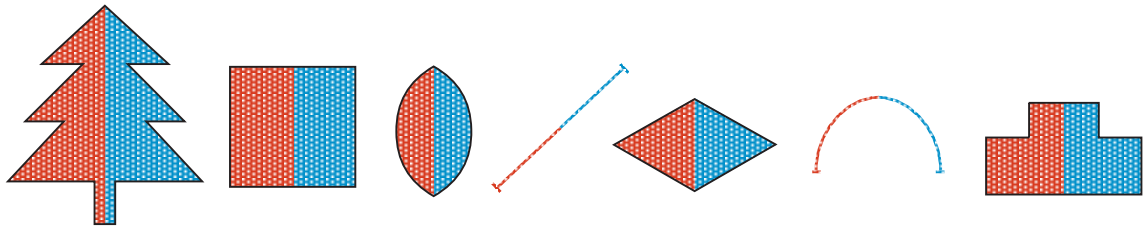
b) After the party, Piggy checked on what had been left.

Colour the parts of the cakes he found.



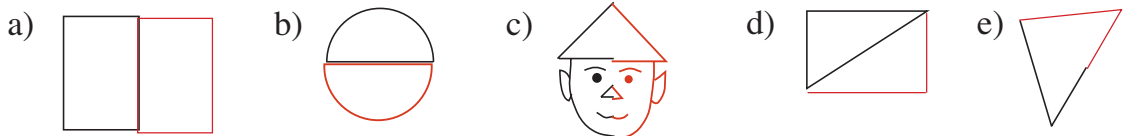
2

Colour one half of each shape in *red* and the other half in *blue*.



3

Each drawing is only half of the picture. Complete the whole drawing.



4

a) Tom had a length of wire which was 110 cm long.

He used half of it to make a model. What length of wire did he have left?

$$110 \text{ cm} \div 2 = 55 \text{ cm}$$

Answer: .. Tom had 55 cm of wire left.

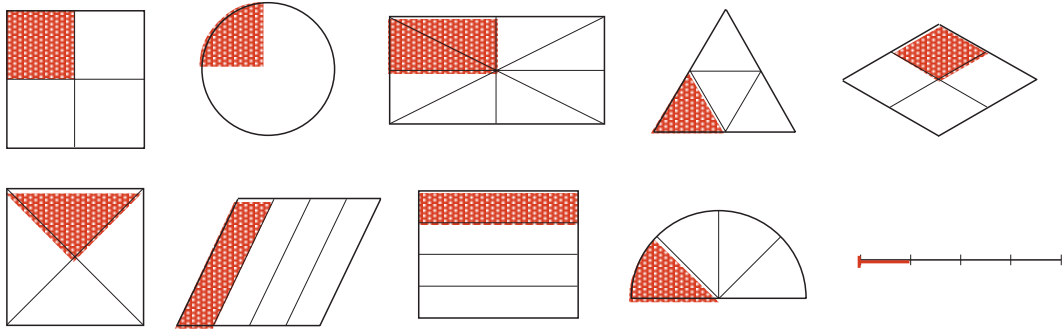
b) Last month Lucy had £30 in her savings bank. Today, this amount is only half of what she has saved. How much money does Lucy have now?

$$£30 \times 2 = £60$$

Answer: .. Lucy has £60 now.

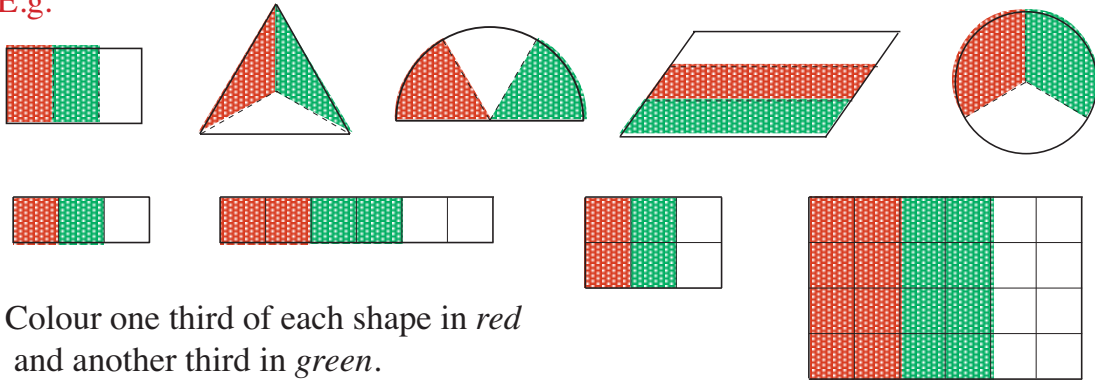
1

Colour a quarter of each shape. *E.g.:*



2

E.g.:

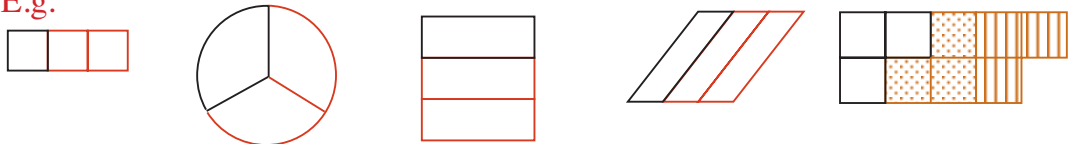


Colour one third of each shape in *red* and another third in *green*.

3

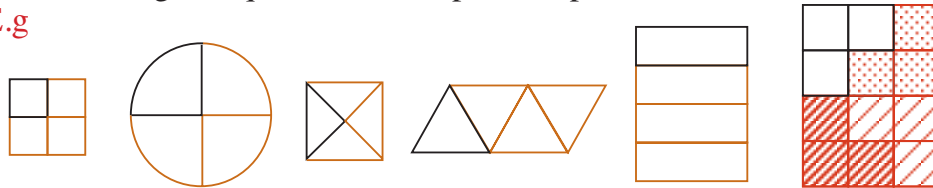
a) Each drawing is 1 third of a unit. Complete it to make the whole unit.

E.g.:



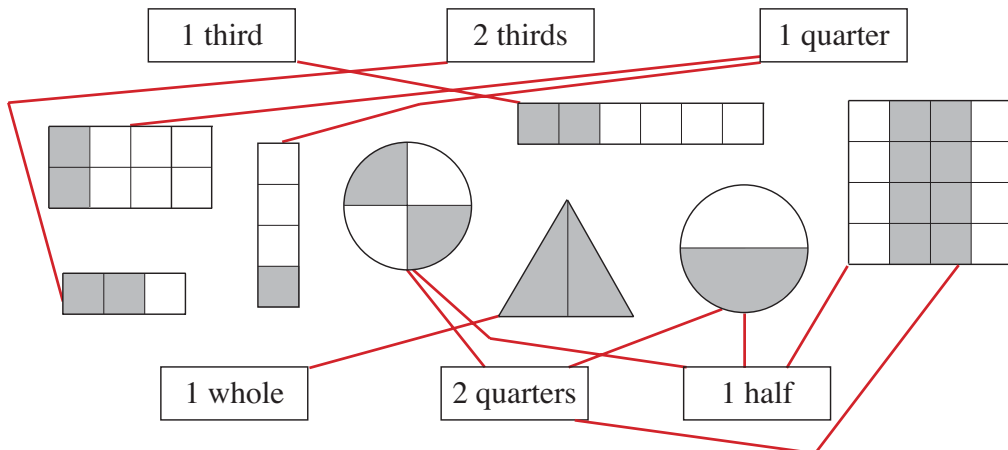
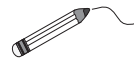
b) Each drawing is 1 quarter of a shape. Complete it to make the whole shape.

E.g.:



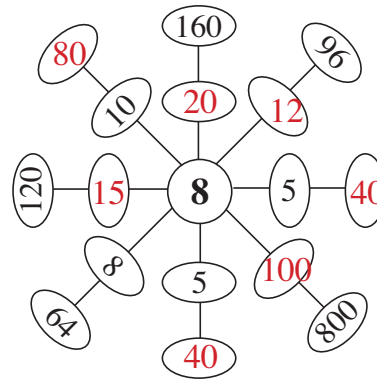
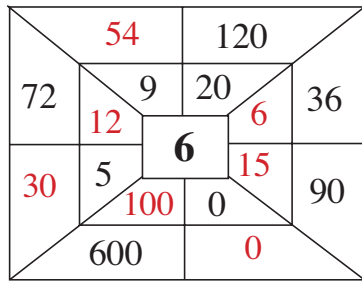
4

Join up the labels to the corresponding shapes.



1

Fill in the missing numbers. Write down the rule.



Rule: E.g. No. in centre \times number in next section = number in outer section.

2

Round these numbers to the next nearest whole ten.

- a) 33 \approx 40 57 \approx 60 96 \approx 100
 b) 108 \approx 110 203 \approx 210 399 \approx 400
 c) 556 \approx 560 411 \approx 420 666 \approx 670

3

Write the Roman numerals below these numbers.

- a) 152 b) 74 c) 300 d) 99 e) 108
 CLII LXXIV CCC XCIX CVIII

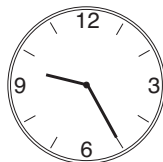
4

Practise calculation.

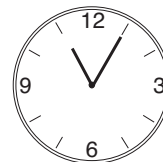
- a) $10 \times 30 = 300$ b) $0 \times 17 = 0$ c) $15 \times 4 = 60$
 $9 \times 30 = 270$ $150 \div 10 = 15$ $167 \div 1 = 167$
 $100 \times 5 = 500$ $90 \div 2 = 45$ $100 \div 2 = 50$
 $30 \times 8 = 240$ $1000 \div 5 = 200$ $0 \div 19 = 0$
 $10 \times 11 = 110$ $660 \div 6 = 110$ $250 \div 50 = 5$

5

a) How many hours and minutes have passed in an evening from:



to



1 hours
40 minutes

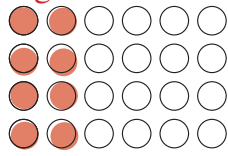
b) How many more minutes will it then be until midnight?

55 minutes

1

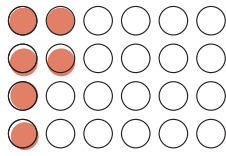
Colour the correct number of marbles. Write a division about each picture.

E.g:



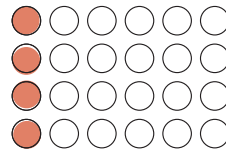
1 third

$24 \div 3 = \boxed{8}$



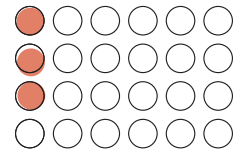
1 quarter

$24 \div 4 = 6$



1 sixth

$24 \div 6 = 4$



1 eighth

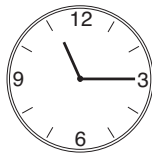
$24 \div 8 = 3$

2

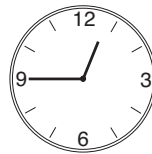
How many hours and minutes do the hands on the clock show?



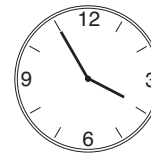
$\boxed{7}$ hours
 $\boxed{30}$ minutes



$\boxed{11}$ hours
 $\boxed{15}$ minutes



$\boxed{12}$ hours
 $\boxed{45}$ minutes



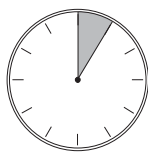
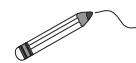
$\boxed{3}$ hours
 $\boxed{55}$ minutes

3

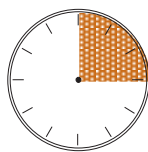
a) How many minutes does the minute hand on the clock show when it is pointing to these numbers? Complete the table.

Minute hand points to:	12	1	2	3	4	5	6	7	8	9	10	11
Minutes shown	0	5	10	15	20	25	30	35	40	45	50	55

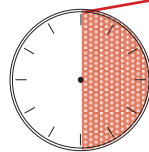
b) Shade the clocks to show how far the minute hand has gone. Join up the clocks which are the same.



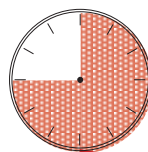
5 minutes



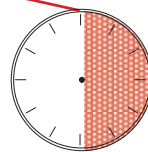
15 minutes



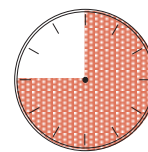
half an hour



3 quarters of an hour



30 minutes



45 minutes

4

Compare the two sides. Write the correct sign between them. (=, <, >)

a) half an hour $\boxed{<}$ 35 minutes b) 15 minutes $\boxed{=}$ a quarter of an hour

c) 50 minutes $\boxed{>}$ 3 quarters of an hour d) 1 hour $\boxed{=}$ 60 minutes

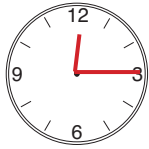
e) a quarter of an hour + 5 minutes $\boxed{<}$ half an hour – 5 minutes

f) 20 minutes + half an hour $\boxed{>}$ a quarter of an hour + half an hour

1 The clock is set at 12 noon.



Draw where the hands of the clock will be after these amounts of time:



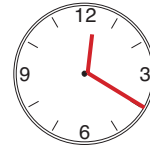
12 h 15 min



12 h 30 min

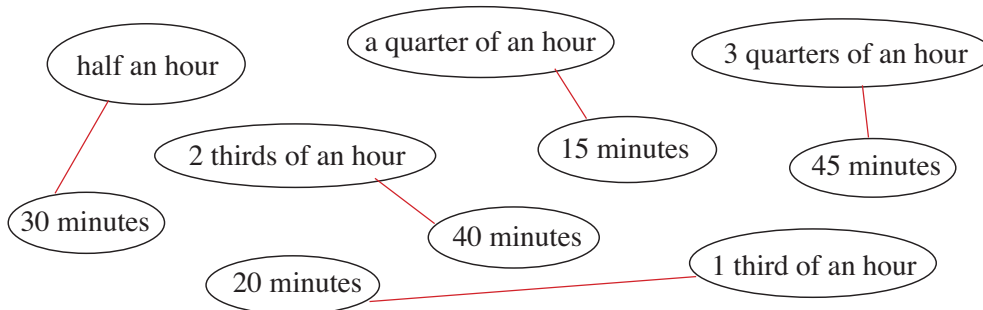
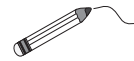


quarter of an hour



12 h 20 min

2 Join up the equal quantities.



3 Complete the open sentences so that they are correct.

- a) 3 quarters of an hour + hour = 1 hour.
- b) 30 minutes + hour = 1 hour.
- c) 20 minutes + half an hour + minutes = 1 hour.
- d) A quarter of an hour + a third of an hour + minutes = 1 hour.

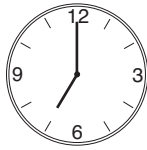
4 If the statement is correct, write a ✓ in the box. If not, write a ✗ and correct the mistake.

- a) 1 hour = 60 minutes
- b) Half an hour = 20 minutes ✗
Half an hour = 30 minutes
- c) Half an hour = 2 quarters of an hour
- d) 20 minutes = 2 thirds of an hour ✗
20 minutes = 1 third of an hour
- e) 3 quarters of an hour = 45 minutes
- f) 2 thirds of an hour = 1 quarter of an hour + 5 minutes ✗
E.g: 2 thirds of an hour = half an hour + 10 minutes
- g) 2 quarters of an hour = 1 quarter of an hour + 15 minutes

1

Write the times shown on the clocks in 3 different ways.

- a) morning b) nearly mid-day c) afternoon d) evening e) night



7 h 0 min

7.00 am

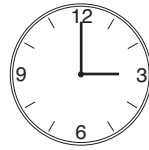
07:00



11 h 30 min

11.30 am

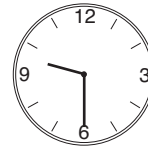
11.30



3 h 00 min

3.00 pm

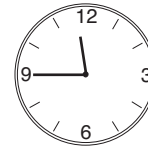
15:00



9 h 30 min

9.30 pm

21:30



11 h 45 min

11.45 pm

23:45

2

Draw hands on the clocks to show the times given. Write the time in a different way below each clock.

- a) 4.00 am b) 8.30 pm c) 8.30 am d) 12.15 pm e) 0.15 am



E.g:

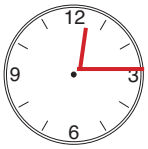
04:00



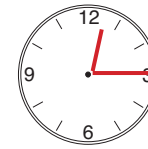
20:30



8 h 30 min



12:15



0 h 15 min

3

Fill in the missing numbers.

- a) 1 hour = minutes b) half a day = hours
 1 minute = seconds a quarter of a day = hours
 1 day = hours a third of a day = hours
 2 days = hours 3 quarters of an hour = minutes

4

Complete the tables.

a)

Days	1	2	1 quarter	3 quarters	1 third	2 thirds	1 eighth	1 half
Hours	24	48	6	18	8	16	3	12

$$H = D \times 24$$

$$D = H \div 24$$

b)

Hours	1	3	5	1 half	1 quarter	1 and a half	1 third	2 thirds	1 sixth	1 fifth
Minutes	60	180	300	30	15	90	20	40	10	12

1

Colour the odd one out. Write the reason for your choice.

Reason: **The other times are 2 hours;; this one is 1 hour and 55 minutes.**

2

Write the amounts of time in **increasing** order.

10 minutes < 1 quarter of an hour < 1 third of an hour < 35 minutes < 3 quarters of an hour < half a day

3

Sparrow and *Trout* were arguing over the times in a day. Who is correct? Tick the correct answer and cross out the wrong one.



12 hours

~~14 hours~~

4 hours

~~45 minutes~~

15 minutes

40 minutes

~~2 hours~~

~~9 hours~~

18 minutes

half a day

2 quarters of a day

1 sixth of a day

2 half hours

a quarter of an hour

2 thirds of an hour

1 eighth of a day

2 sixths of a day

3 tenths of an hour



~~30 hours~~

12 hours

4 hours

60 minutes

~~20 minutes~~

~~45 minutes~~

3 hours

8 hours

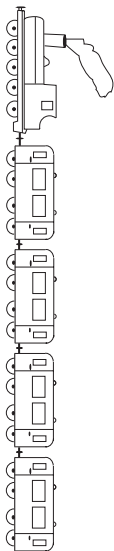
~~20 minutes~~

1

Complete the open sentences so that they are correct.

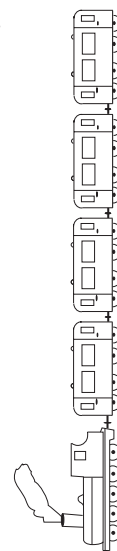
E.g:

- a) 1 fifth of an hour + four fifths of an hour = 1 hour.
- b) 40 minutes + 1 third of an hour = 1 hour.
- c) 10 minutes + half an hour + 20 minutes = 1 hour.
- d) 3 quarters of an hour + 1 sixth of an hour + 5 minutes = 1 hour.
- e) 2 thirds of an hour + 20 minutes = 1 hour.
- f) 15 minutes + 3 quarters of an hour = 1 hour.
- g) 2 thirds of an hour + one third of an hour = 1 hour.

2

A train runs at different times of the day between 2 stations.
Complete the table.

Departs from Station A at:	Arrives at Station B at:	Journey time:
6:53	11:30	4 h 37 min
10:25	13:10	2 h 45 min
17:05	20:56	3 h 51 min
21:30	00:45	3 h 15 min
00:36	04:35	3 h 59 min

**3**

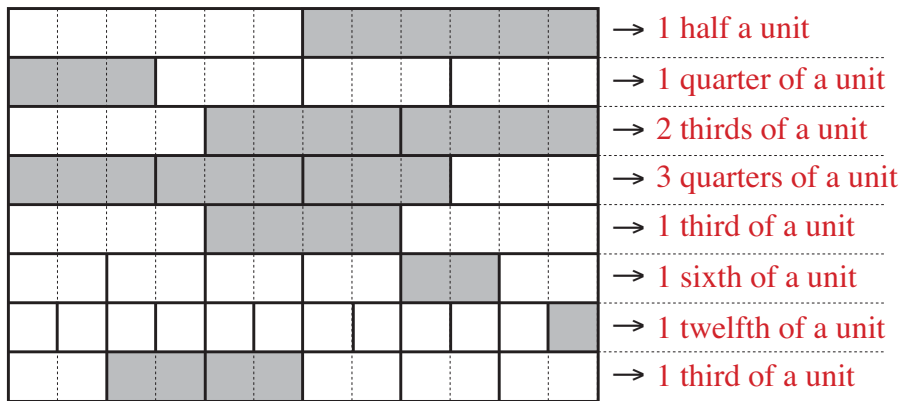
Practise division. Check with multiplication.

- a) $31 \div 5 = \boxed{6}$
remainder 1
Check
 $1 + 6 \times 5 = 31$
- b) $87 \div 9 = \boxed{9}$
remainder 6
Check
 $6 + 9 \times 9 = 87$
- c) $48 \div 7 = \boxed{6}$
remainder 6
Check
 $6 + 6 \times 7 = 48$
- d) $106 \div 10 = \boxed{10}$
remainder 6
Check
 $6 + 10 \times 10 = 106$
- e) $98 \div 3 = \boxed{32}$
remainder 2
Check
 $2 + 32 \times 3 = 98$
- f) $85 \div 60 = \boxed{1}$
remainder 25
Check
 $25 + 1 \times 60 = 85$

1

If this is 1 unit:  → 1 unit

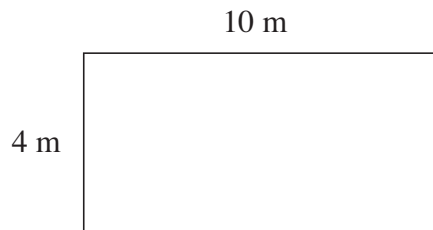
what is the value of each shaded part?



2

This is my garden.

I have already dug up part of it.



How much of the garden do I still have to dig?
Complete the table.

Part already dug	1 fifth	3 quarters	1 quarter	3 fifths	1 half	2 tenths	6 tenths	4 fifths
Part remaining	4 fifths	1 quarter	3 quarters	2 fifths	1 half	8 tenths	4 tenths	1 fifth

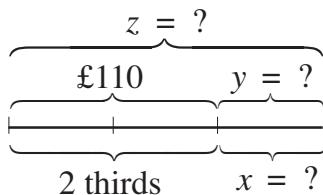
3

I have already drunk 3 quarters of a 2 litre bottle of lemonade.

- a) What part of the lemonade is left? 1 quarter
.....
- b) How many cl of the lemonade is left? 50 cl
.....
- c) How many cl of lemonade have I drunk? 150 cl
.....

4

Write a context for the plan.
Solve it.

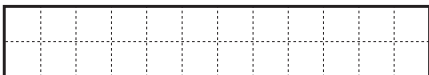


E.g: I spent £110, which was 2 thirds of my money.


- a) What part of it do I have left? (x)
 b) How much money do I have left? (y)
 c) How much money did I have to begin with? (z)
 Answer: a) I have 1 third left.
 b) I have £55 left
 c) I had £165 to begin with.


1

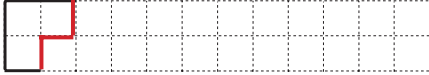
Complete the drawings.

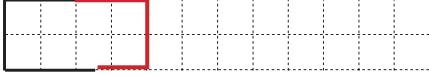
If this is : 1 whole → 

then this is:

1 half → 

1 sixth → 

1 eighth → 

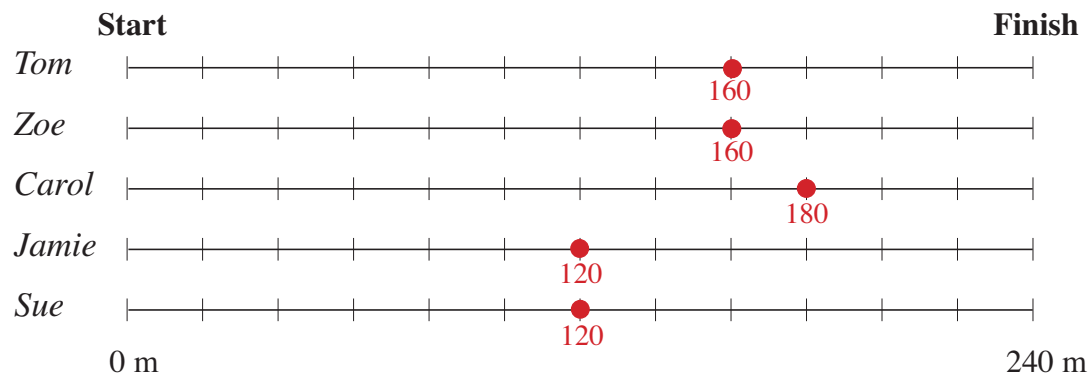
1 third → 

2

Five children are running in a 240 m race. At this moment in time:

- Tom has run 4 sixths of the distance.
- Zoe has run 2 thirds of the distance.
- Carol has run 3 quarters of the distance.
- Jamie has run 3 sixths of the distance.
- Sue has run half way.

Mark where each child is on the running track.



3

Gerry spent £140 on his holiday. Joe spent 1 seventh more than Gerry.

a) How much money did Joe spend on his holiday?

$$140 \div 7 + 140 = 160$$

Answer: Joe spent £160.

b) How much money did Gerry and Joe spend altogether?

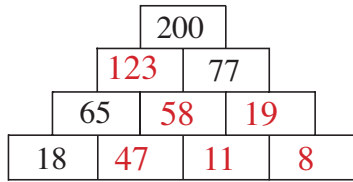
$$140 + 160 = 300$$

Answer: They spent £300 altogether.

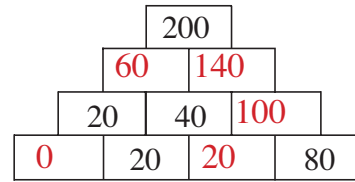
1

Each number is the **sum** of the two numbers directly below it.
Fill in the missing numbers.

a)



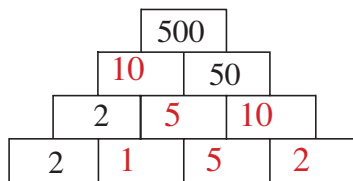
b)



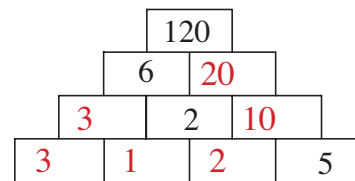
2

Each number is the **product** of the two numbers directly below it.
Fill in the missing numbers.

a)



b)



3

In a school, each lesson starts on the hour and lasts for 45 minutes.

a) What part of an hour is:

- i) each lesson **3 quarters**
- ii) each break? **1 quarter**

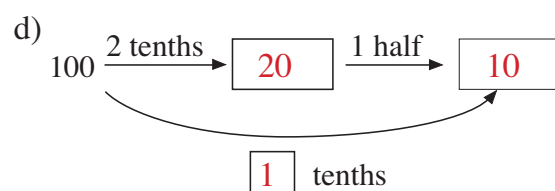
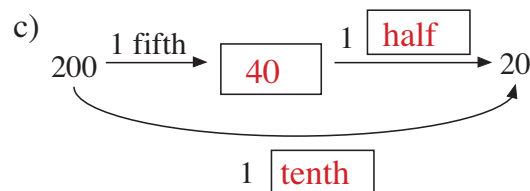
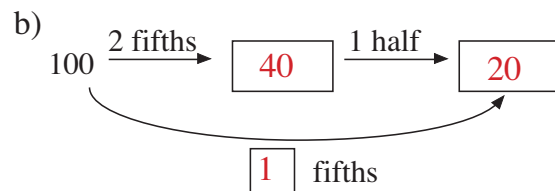
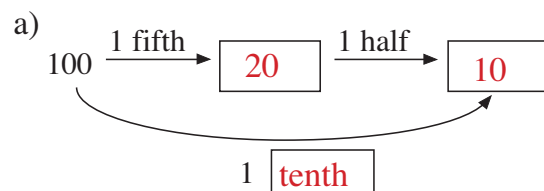
b) The lessons start at 09:00 and lunch is at 13:00.
How many lessons are there during the morning? **4 lessons**

c) How many hours and minutes do pupils spend:

- i) in lessons **3 hours**
- ii) in breaks? **1 hour**

4

Fill in the missing items.

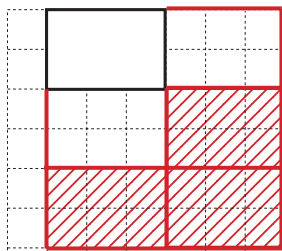


1

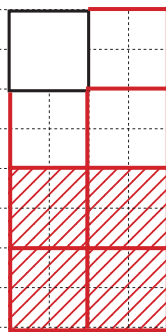
Complete each given part to make 2 whole units.

E.g:

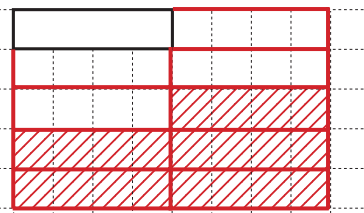
a) 1 third



b) 1 quarter



c) 1 fifth



2

How much of their money did they each spend?

a) Irene had $\textcircled{100}$ $\textcircled{50}$ $\textcircled{20}$ $\textcircled{20}$ $\textcircled{10}$ and spent 1 fifth of half of her money.

Irene spent 20 p.

b) George had $\textcircled{50}$ $\textcircled{50}$ $\textcircled{50}$ $\textcircled{20}$ $\textcircled{10}$ and spent half of 1 third of his money.

George spent 30 p.

c) Nick had $\textcircled{100}$ $\textcircled{100}$ $\textcircled{50}$ $\textcircled{50}$ $\textcircled{20}$ $\textcircled{20}$ $\textcircled{20}$ and spent 1 third of a half.

Nick spent 60 p.

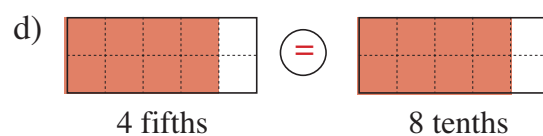
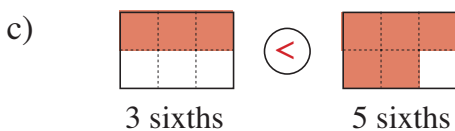
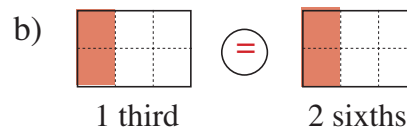
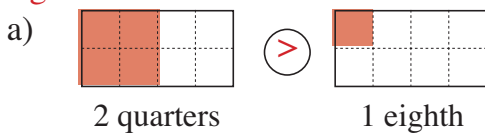
d) Jane had $\textcircled{50}$ $\textcircled{20}$ $\textcircled{20}$ $\textcircled{20}$ $\textcircled{20}$ $\textcircled{10}$ $\textcircled{10}$ $\textcircled{10}$ and spent 1 eighth of a quarter.

Jane spent 5 p.

3

Colour the parts stated. Compare the two rectangles. Fill in the missing sign.

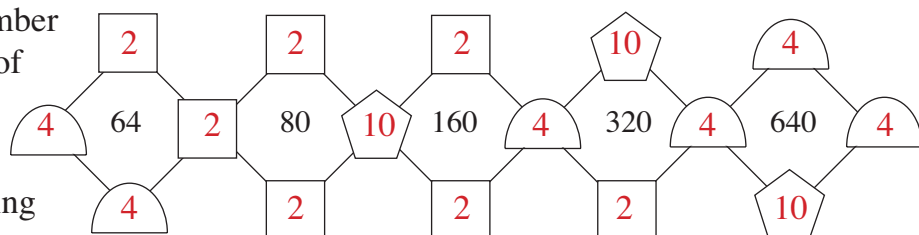
E.g:



4

The middle number is the **product** of the 4 numbers around it.

Fill in the missing numbers.



1





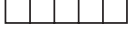







I planted roses in 80 square metres of my garden.  This area is 1 fifth of my whole garden. How big is my garden?

$5 \times 80 = 400$

Answer: My garden is 400 square metres.

2

Complete the table.

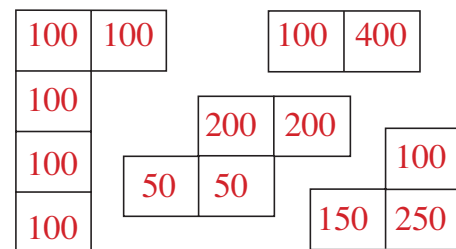
Unit						
Shape						
Value of shape	3	1 third	2	1 half	2 fifths	2 thirds

3

Colour these shapes in the grid so that the **sum** of each shape is 500.

E.g:

100	100	200	100	400	200	200	450
100	150	150	200	50	50	150	200
100	50	100	350	350	300	200	100
100	400	250	250	400	50	150	250



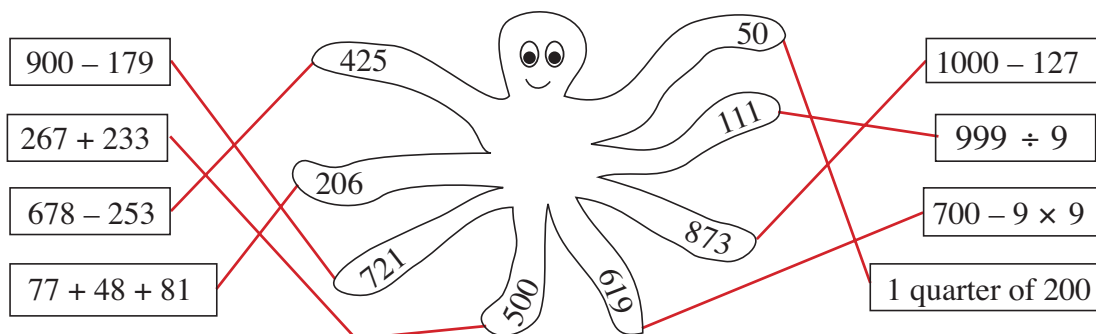
4

What is:

- a) 49 less than 123 74
- b) 250 more than 125 375
- c) 3 times more than 33 99
- d) 1 fifth of 110 22
- e) the difference between 97 and 48 49
- f) 1 ninth of 81 9
- g) the product of 18 and 4 72
- h) the sum of 176 and 54? 230

5

Join up the equal amounts.



1

Barry Bear tried to write the same number in different ways but he made some mistakes.



Cross out the mistakes and correct them.

9 hundreds, 4 tens and 5 units

945

$9 \times 100 + 4 \times 10 + 5 \times 1$

~~$900 + 50 + 4$~~
900 + 40 + 5

~~$90 + 45$~~
900 + 45

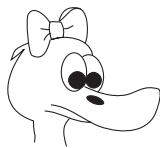
800 + 100 + 45

2

Create as many different 3-digit numbers as you can from the digits 1, 2, 3 and 4. Do not use a digit more than once in any number.

- | | | | |
|-----|-----|-----|-----|
| 123 | 213 | 312 | 412 |
| 132 | 231 | 321 | 421 |
| 124 | 214 | 314 | 413 |
| 142 | 241 | 341 | 431 |
| 134 | 234 | 324 | 423 |
| 143 | 243 | 342 | 432 |

3



Which numbers was Daffy Duck thinking about?

a) = 444

b) If $\square = 100$, $| = 10$, and $\bullet = 1$ = 213

i) $\square \square | \dots$ = 213

ii) $\square \square \square ||| \dots$ = 415

iii) $\square \square \square \square$
 $\square ||| \dots$ = 559

iv) $\square \square \square \square$
 \dots = 412

v) $\square \square \square ||| \dots$ = 333

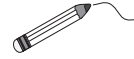
1

What is the rule? Continue the sequence for another 10 terms. **Rule: subtract 6**

700, 694, 688, **682**, **676**, **670**, **664**, **658**, **652**, **646**, **640**, **634**, **628**,

2

Colour with the same colour or join up the equal numbers.



3 hundreds + 8 units

94

480

2 hundreds + 108 units

5 hundreds + 2 tens + 10 units

531

50 + 10 + 34

2 hundreds + 200 units + 8 tens

900 - 1

500 + 20 + 10

8 hundreds + 8 tens + 19 units

5 hundreds + 3 tens + 1 unit

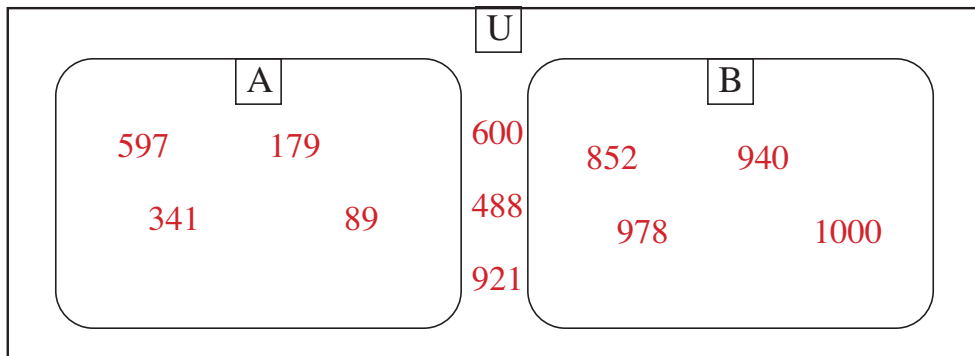
3

Write the odd numbers smaller than 600 in set A.

Write the even numbers greater than 800 in set B.

Choose from the numbers in set U.

U = { 488, 852, 597, 921, 940, 179, 600, 978, 341, 89, 1000 }



4

Complete the table.

		Th	H	T	U
568	$5 \times 100 + 6 \times 10 + 8 \times 1$		5	6	8
173	$1 \times 100 + 7 \times 10 + 3 \times 1$		1	7	3
902	$9 \times 100 + 0 \times 10 + 2 \times 1$		9	0	2
430	$4 \times 100 + 3 \times 10 + 0 \times 1$		4	3	0
1245	$1 \times 1000 + 2 \times 100 + 4 \times 10 + 5 \times 1$	1	2	4	5
1050	$1 \times 1000 + 0 \times 100 + 5 \times 10 + 0 \times 1$	1	0	5	0

1

Write the numbers from set **A** in the correct boxes.

$$A = \{ 100, 305, 74, 0, 981, 1026, 1439, 1975, 2000, 1000 \}$$

a)

<div style="border: 1px solid black; display: inline-block; padding: 2px 5px; margin-bottom: 5px;">Even numbers</div> <div style="display: flex; justify-content: space-around; text-align: center;"> 100 74 0 </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 1026 2000 </div> <div style="text-align: center; margin-top: 10px;">1000</div>	<div style="border: 1px solid black; display: inline-block; padding: 2px 5px; margin-bottom: 5px;">Odd numbers</div> <div style="display: flex; justify-content: space-around; text-align: center;"> 305 981 1439 </div> <div style="text-align: center; margin-top: 10px;">1975</div>
--	--

b)

<div style="border: 1px solid black; display: inline-block; padding: 2px 5px; margin-bottom: 5px;">3-digit numbers</div> <div style="display: flex; justify-content: space-around; text-align: center;"> 100 305 981 </div>	0 74	<div style="border: 1px solid black; display: inline-block; padding: 2px 5px; margin-bottom: 5px;">4-digit numbers</div> <div style="display: flex; justify-content: space-around; text-align: center;"> 1026 1439 1975 </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 2000 1000 </div>
---	---------	---

c)

<div style="border: 1px solid black; display: inline-block; padding: 2px 5px; margin-bottom: 5px;">More than 1000</div> <div style="display: flex; justify-content: space-around; text-align: center;"> 1026 1439 1975 </div> <div style="text-align: center; margin-top: 10px;">2000</div>	1000	<div style="border: 1px solid black; display: inline-block; padding: 2px 5px; margin-bottom: 5px;">Less than 1000</div> <div style="display: flex; justify-content: space-around; text-align: center;"> 100 305 74 </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 0 981 </div>
---	------	--

2

- a) Add 12 to each number in **A** and write the result in **B**.
- b) Decide whether the statements are true or false. Write ✓ or ✗ in the box.

A		B
111	+ 12 →	123
112	+ 12 →	124
113	+ 12 →	125
122	+ 12 →	134
123	+ 12 →	135
133	+ 12 →	145
222	+ 12 →	234
223	+ 12 →	235
233	+ 12 →	245
333	+ 12 →	345

- i) **A** contains all 3-digit numbers with digits 1, 2 and 3. ✗
Some missing - e.g. 311, 322
- ii) **B** contains all 3-digit numbers with different digits from the set
 $\{ 1, 2, 3, 4, 5 \}$
 and the digits are increasing. ✓
- iii) None of the numbers in **A** have digits which are decreasing. ✓

1

Write the numbers as digits.

a) Th H T U b) Th H T U c) Th H T U d) Th H T U

1 4 3 8 1 4 0 3 1 7 4 0 1 0 0 3

2

Write these numbers as digits. Which is more? Write in the correct sign. (<, =, >)

- a) 6 hundred and 5 = 605 < 650 = 6 hundred and 50
- b) 9 hundreds + 2 tens = 920 > 919 = 9 hundreds + 1 ten + 9 units
- c) 2 hundreds + 1 ten + 7 = 217 > 209 = 2 hundreds + 0 tens + 9 units
- d) 7 hundred and 13 = 713 < 720 = 7 hundreds + 2 tens

Colour *yellow* the boxes which contain even numbers.

3

a) Complete the table.

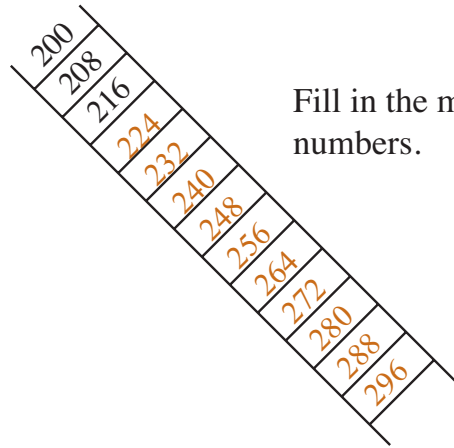
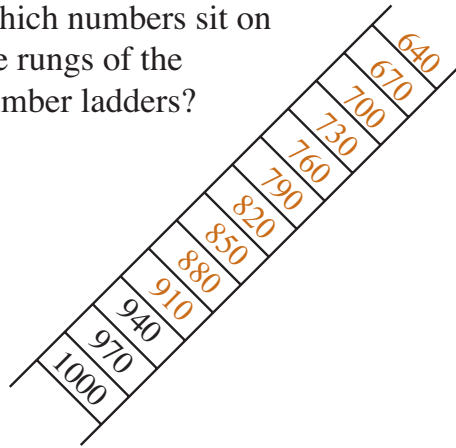
		Th	H	T	U	
i)	320	$3 \times 100 + 2 \times 10 + 0 \times 1$		3	2	0
ii)	951	$9 \times 100 + 5 \times 10 + 1 \times 1$		9	5	1
iii)	888	$8 \times 100 + 8 \times 10 + 8 \times 1$		8	8	8
iv)	603	$6 \times 100 + 0 \times 10 + 3 \times 1$		6	0	3
v)	1071	$1 \times 1000 + 0 \times 100 + 7 \times 10 + 1 \times 1$	1	0	7	1
vi)	3540	$3 \times 1000 + 5 \times 100 + 4 \times 10 + 0 \times 1$	3	5	4	0

b) Write the numbers in the table in words.

- i) ... Three hundred and twenty
- ii) ... Nine hundred and fifty one
- iii) ... Eight hundred and eighty eight
- iv) ... Six hundred and three
- v) ... One thousand and seventy one
- vi) ... Three thousand five hundred and forty

1

Which numbers sit on the rungs of the number ladders?



Fill in the missing numbers.

2

Practise calculation. Write the digits in the correct boxes.

- a) $2 + 5 = \boxed{} \boxed{7}$ $20 + 50 = \boxed{} \boxed{7} \boxed{0}$ $200 + 500 = \boxed{} \boxed{7} \boxed{0} \boxed{0}$
- b) $7 + 8 = \boxed{1} \boxed{5}$ $70 + 80 = \boxed{1} \boxed{5} \boxed{0}$ $700 + 800 = \boxed{1} \boxed{5} \boxed{0} \boxed{0}$
- c) $14 + 3 = \boxed{1} \boxed{7}$ $140 + 30 = \boxed{1} \boxed{7} \boxed{0}$ $1400 + 300 = \boxed{1} \boxed{7} \boxed{0} \boxed{0}$
- d) $6 - 4 = \boxed{} \boxed{2}$ $60 - 40 = \boxed{} \boxed{2} \boxed{0}$ $600 - 400 = \boxed{} \boxed{2} \boxed{0} \boxed{0}$
- e) $11 - 5 = \boxed{} \boxed{6}$ $110 - 50 = \boxed{} \boxed{6} \boxed{0}$ $1100 - 500 = \boxed{} \boxed{6} \boxed{0} \boxed{0}$
- f) $20 - 8 = \boxed{1} \boxed{2}$ $200 - 80 = \boxed{1} \boxed{2} \boxed{0}$ $2000 - 800 = \boxed{1} \boxed{2} \boxed{0} \boxed{0}$

3

Practise multiplication and division.

- a) $7 \times 2 = 14$ $7 \times 20 = 140$ $7 \times 200 = 1400$
- b) $12 \div 3 = 4$ $120 \div 3 = 40$ $1200 \div 3 = 400$
- c) $8 \times 6 = 48$ $8 \times 60 = 480$ $80 \times 6 = 480$
- d) $42 \div 7 = 6$ $420 \div 7 = 60$ $420 \div 70 = 6$
- e) $5 \times 4 = 20$ $5 \times 40 = 200$ $50 \times 40 = 2000$
- f) $27 \div 9 = 3$ $270 \div 9 = 30$ $270 \div 90 = 3$

4

Study the numbers in set A. Complete the sentences so that they are correct.

$$A = \{ 152, 125, 72, 34, 909, 999, 450 \}$$

E.g:

- a) All these numbers ... **are whole numbers.**
- b) Not all these numbers ... **are even numbers.**
- c) None of these numbers ... **is a 1-digit number.**
- d) There is at least one number which ... **is less than 100.**

1

Calculate:

$26 + 13 = 39$	$260 + 130 = 390$	$58 - 32 = 26$	$580 - 320 = 260$
$18 + 42 = 60$	$180 + 420 = 600$	$70 - 21 = 49$	$700 - 210 = 490$
$56 + 44 = 100$	$560 + 440 = 1000$	$100 - 59 = 41$	$1000 - 590 = 410$
$135 + 48 = 183$	$1350 + 480 = 1830$	$146 - 18 = 128$	$1460 - 180 = 1280$
$164 + 36 = 200$	$1640 + 360 = 2000$	$200 - 35 = 165$	$2000 - 350 = 1650$

2

Calculate:

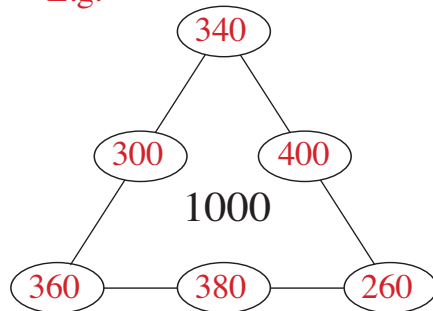
a) $7 \times 1 = 7$ $11 \times 1 = 11$ b) $19 \times 10 = 190$ $119 \times 10 = 1190$
 $7 \times 10 = 70$ $11 \times 10 = 110$ $7 \times 100 = 700$ $10 \times 70 = 700$
 $7 \times 100 = 700$ $11 \times 100 = 1100$ $19 \times 100 = 1900$ $10 \times 190 = 1900$

c) $900 \div 1 = 900$ $1000 \div 1 = 1000$ d) $600 \div 100 = 6$ $600 \div 10 = 60$
 $900 \div 10 = 90$ $1000 \div 10 = 100$ $800 \div 100 = 8$ $800 \div 10 = 80$
 $900 \div 100 = 9$ $1000 \div 100 = 10$ $1200 \div 100 = 12$ $1200 \div 10 = 120$

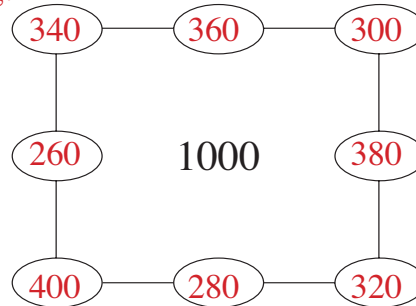
3

Write numbers in the circles so that the sum of the 3 numbers along each line is 1000. Choose from: 260, 280, 300, 320, 340, 360, 380, 400.

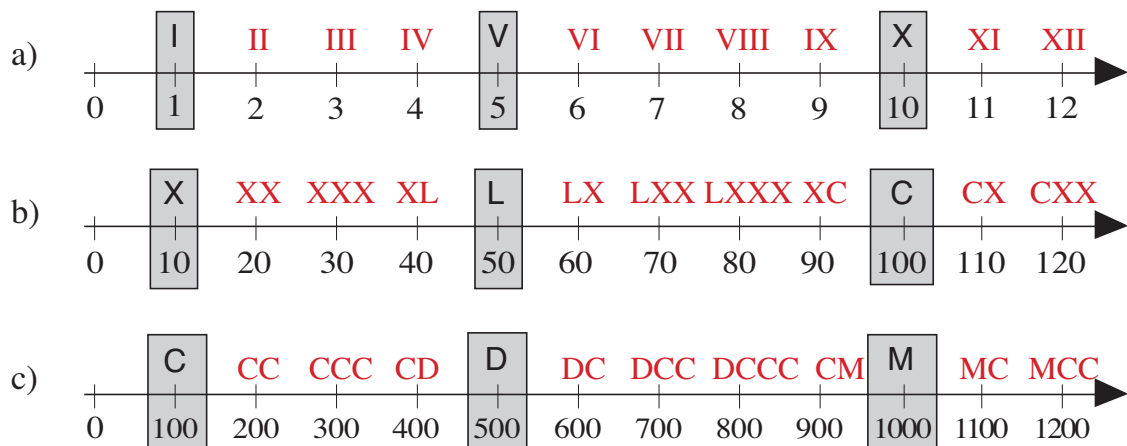
a) E.g:



b) E.g:

**4**

Write the numbers as Roman numerals.



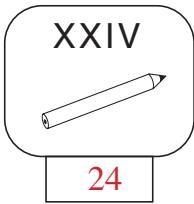
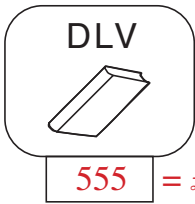
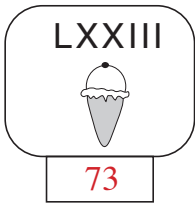
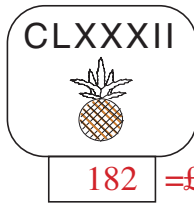
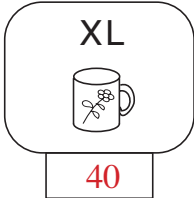
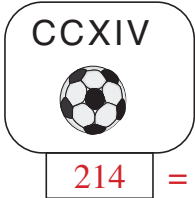
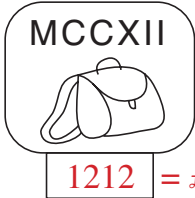
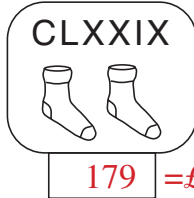
1

Write these numbers as Roman numerals.

- a) $100 + (50 + 10) + (1 + 1)$ b) $(500 + 100) + (50 - 10) + (1 + 1)$
 $C + LX + II = CLXII$ $DC + XL + II = DCXLII$
- c) $1000 + (500 + 100) + 1$ d) $(1000 - 100) + (50 + 10) + 5$
 $M + DC + I = MDCCI$ $CM + LX + V = CMLXV$
- e) $1000 + (100 + 100) + (5 + 1)$ f) $(500 + 100 + 100) + (10 + 10 + 10)$
 $M + CC + VI = MCCVI$ $DCC + XXX = DCCXXX$

2

How many pence do these items cost? Write the amounts as Arabic numbers.

- a)  **24**
- b)  **555 = £5.55**
- c)  **73**
- d)  **182 = £1.82**
- e)  **40**
- f)  **214 = £2.14**
- g)  **1212 = £12.12**
- h)  **179 = £1.79**

3

Write these numbers as Roman numerals. For example:

$$628 = \underset{DC}{(500 + 100)} + \underset{XX}{(10 + 10)} + \underset{VIII}{(5 + 1 + 1 + 1)} = DCXXVIII$$

- a) $756 = \underset{DCC}{(500 + 100 + 100)} + \underset{L}{50} + \underset{VI}{(5 + 1)} = DCCLVI$
- b) $435 = \underset{CD}{(500 - 100)} + \underset{XXX}{(10 + 10 + 10)} + \underset{V}{5} = CDXXXV$
- c) $263 = \underset{CC}{(100 + 100)} + \underset{LX}{(50 + 10)} + \underset{III}{(1 + 1 + 1)} = CCLXIII$
- d) $974 = \underset{CM}{(1000 - 100)} + \underset{LXX}{(50 + 10 + 10)} + \underset{IV}{(5 - 1)} = CMLXXIV$

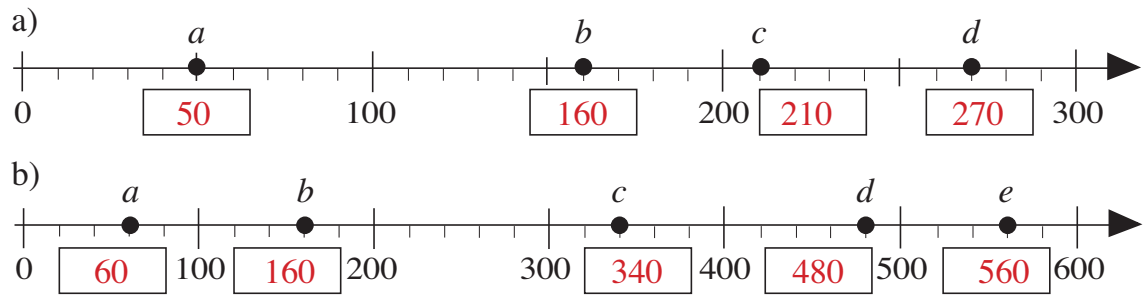
4

Which is more?
How many more?

- a) $154 <_2 156$
 CLIV CLVI
- b) $529 <_3 532$
 DXXIX DXXXII
- c) $1000 > 810$
 M DCCCX
- d) $350 > 320$
 CCCL CCCXX

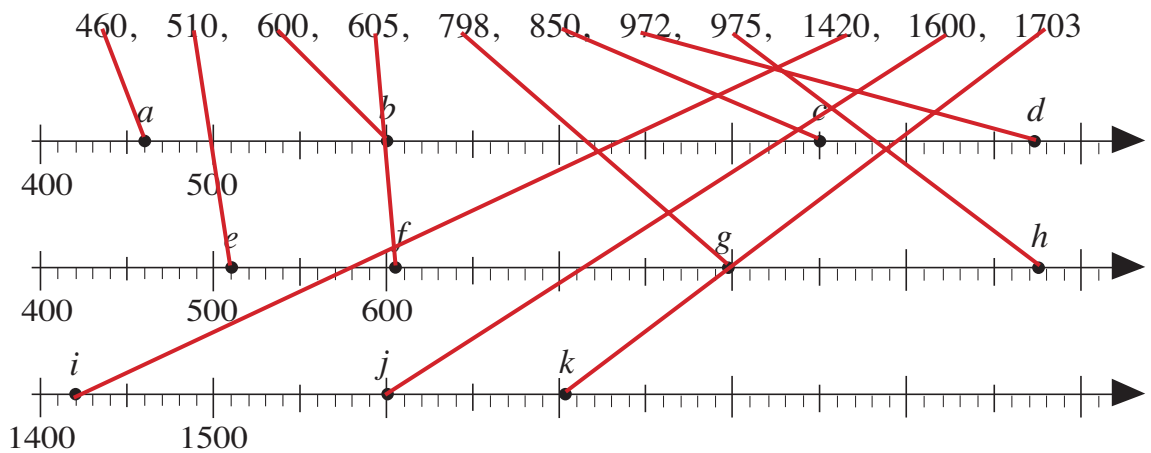
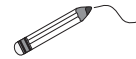
1

Which numbers do the letters stand for? Write the numbers in the boxes.



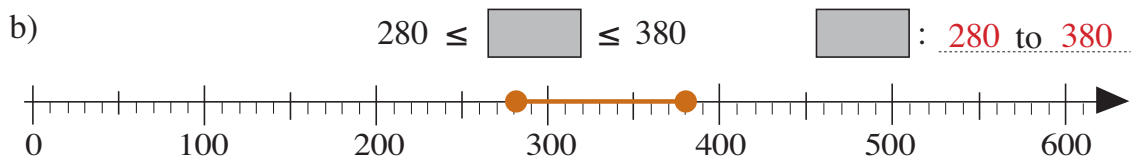
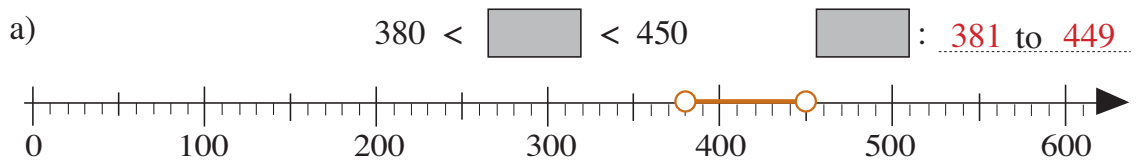
2

Join up the letters to the matching numbers.



3

Which whole numbers make each statement true? Mark them on the number line. Write down the highest and lowest possible numbers.



4

Continue the sequences.

- a) 1, 2, 4, 8, 16, 32, 64, 128, 256, 512, ...
- b) 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, ...
- c) 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, ...
- d) 1, 3, 6, 10, 15, 21, 28, 36, 45, 55, ...

1

Study the numbers in set **B**. Complete the sentences so that they are correct.

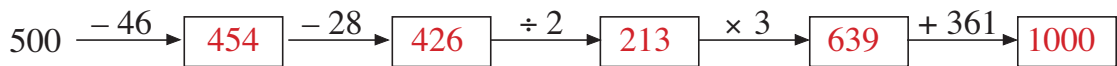
$$B = \{ 144, 273, 50, 18, 705, 1001, 850 \}$$

E.g:

- a) All these numbers ... **are whole numbers.**
- b) Not all these numbers ... **have 3 digits.**
- c) None of these numbers ... **has 5 digits.**
- d) There is at least one number which **has 2 digits .. or .. is larger than 1000.**
- e) There are no numbers which ... **have only 1 digit.**
- f) There is at least one number which is not ... **a 2 or 3 digit number.**

2

Fill in the missing numbers.






Write the operations in reverse order.



3

Complete the table. Write the rule in different ways.

	475	625	10	217	37	475	118	111	456
	360	335	1002	555	926	525	382	765	394
	835	960	1012	772	963	1000	500	876	850

$$\text{moon} = \text{star} + \text{sun} \quad \text{star} = \text{moon} - \text{sun} \quad \text{sun} = \text{moon} - \text{star}$$

4

Write these numbers as Roman numerals.

- a) 653 b) 402 c) 317 d) 528 e) 1010
- ... **DCLIII** **CDII** **CCCXVII** **DXXVIII** **MX** ...

5

A glass full of milk weighs 370 g. When the glass is half full of milk it weighs 290 g. What does the empty glass weigh?

$$2 \times (370 - 290) = 2 \times 80 = 160$$

$$370 - 160 = 210$$

Answer: ... **210 g**

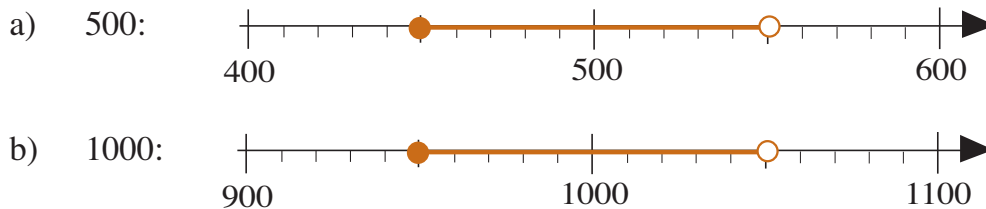
1

List the whole numbers which have these numbers as their nearest whole ten.

- a) 60: *.55, .56, .57, .58, .59, .60, .61, .62, .63, .64*
- b) 100: *.95, .96, .97, .98, .99, 100, 101, 102, 103, 104*
- c) 580: *.575, .576, .577, .578, .579, 580, .581, .582, .583, .584*
- d) 1500: *1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504*
- e) 0: *(-5, -4, -3, -2, -1), 0, 1, 2, 3, 4*

2

Mark on the number line the numbers which have these numbers as the nearest whole hundred:



3

Decide whether the quantities in the answers are **exact** or **approximate**.

Write = or \approx in the boxes.

- a) Ann asked the shop assistant about the price of a computer.
The shop assistant said, "It is £400."
- b) Brian asked a policeman how far it was to the Library.
The policeman said, "It is 400 metres further on."
- c) Cindy asked her mother how many buttons were in her button box.
Her mother said, "There must be 100 buttons in the box."
- d) Dennis asked the storeman how many screws were in a packet.
The storeman said, "There are 150 screws in a packet." or \approx

4

Round these numbers to the nearest

- a) ten: 138 \approx 140 134 \approx 130 135 \approx 140 574 \approx 570
 577 \approx 580 575 \approx 580 1405 \approx 1410 1404 \approx 1400
 1408 \approx 1410 992 \approx 990 999 \approx 1000 995 \approx 1000
- b) hundred: 992 \approx 1000 999 \approx 1000 995 \approx 1000 138 \approx 100
 134 \approx 100 135 \approx 100 574 \approx 600 577 \approx 600
 575 \approx 600 1405 \approx 1400 1404 \approx 1400 1408 \approx 1400

1

List the whole numbers which :

- a) round to 500 as the nearest hundred and have 5 as the tens digit.
 .450, .451., .452, .453., .454, .455., .456, .457., .458, .459
- b) round to 500 as the nearest hundred and have 4 as the tens digit.
 .540, .541., .542, .543., .544, .545., .546, .547., .548, .549
- c) round to 500 as the nearest hundred and also as the nearest ten.
 .495, .496., .497, .498., .499, .500., .501, .502., .503, .504

2

Which digits can the letters represent so that if the numbers are rounded to:

- a) the nearest ten, the value is 360
- | | | | | | |
|---------------|---------------|---------------|---------------|------------------------|------------------------|
| $\boxed{a}56$ | $\boxed{b}64$ | $3\boxed{c}5$ | $3\boxed{d}3$ | $35\boxed{e}$ | $36\boxed{f}$ |
|
3 |
3 |
5 |
6 |
5, 6, 7, 8, 9 |
0, 1, 2, 3, 4 |
- b) the nearest hundred, the value is 400?
- | | | | | | |
|---------------|---------------|------------------------|------------------------|-----------------------|-----------------------|
| $\boxed{g}50$ | $\boxed{h}49$ | $3\boxed{i}1$ | $4\boxed{j}9$ | $35\boxed{k}$ | $44\boxed{l}$ |
|
3 |
4 |
5, 6, 7, 8, 9 |
0, 1, 2, 3, 4 |
0, 1, ..., 9 |
0, 1, ..., 9 |

3

Round these numbers to:

- | | |
|---|--|
| <p>a) the nearest ten</p> <p>1006 \approx .1010.....</p> <p>1005 \approx .1010.....</p> <p>1001 \approx .1000.....</p> <p>1753 \approx .1750.....</p> <p>1759 \approx .1760.....</p> <p>1750 \approx .1750.....</p> | <p>b) the nearest hundred.</p> <p>1006 \approx .1000.....</p> <p>1005 \approx .1000.....</p> <p>1001 \approx .1000.....</p> <p>1753 \approx .1800.....</p> <p>1759 \approx .1800.....</p> <p>1750 \approx .1800.....</p> |
|---|--|

4

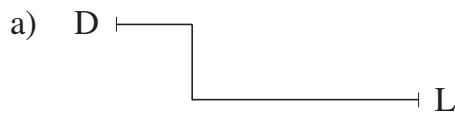
Two different numbers round to 300 as the nearest hundred. Is it possible that:

- a) both numbers are less than 300Yes....
- b) the smaller number is 100 less than the other numberNo....
- c) one number has 5 and the other has 0 as the tens digitsYes....
- d) both numbers are whole hundreds?No....

1

Estimate the length of the routes in the drawings first, then measure them.

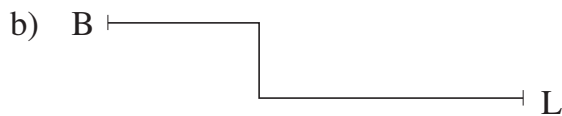
How long are the routes really if 1 cm in the drawing means 10 m in real life?



Estimate: cm

Length: **50** mm = **5** cm

Length in real life: **50** m



Estimate: cm

Length: **65** mm = **6 and a half** cm

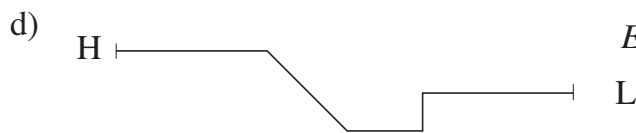
Length in real life: **65** m



Estimate: cm

Length: **45** mm = **4 and a half** cm

Length in real life: **45** m



Estimate: cm

Length: **70** mm = **7** cm

Length in real life: **70** m

2

Write these lengths in millimetres.

a) 2 cm = **20** mm, 11 cm = **110** mm, 105 cm = **1050** mm

b) 5 cm = **50** mm, 20 cm = **200** mm, 132 cm = **1320** mm

c) 9 and a half cm = **95** mm, 57 and a half cm = **575** mm,

half a cm = **5** mm, 123 and a half cm = **1235** mm

3

Change the units of length.

a) 25 mm = **2** cm **5** mm b) 2 m = **200** cm **0** mm

125 mm = **12** cm **5** mm 2 and a half m = **250** cm

82 mm = **8** cm **2** mm 12 m = **1200** cm

382 mm = **38** cm **2** mm 642 cm = **6** m **42** cm

1

Round these lengths to:

a) the nearest 10 mm

$184 \text{ mm} \approx \dots 180 \text{ mm} \dots$

$687 \text{ mm} \approx \dots 690 \text{ mm} \dots$

$185 \text{ mm} \approx \dots 190 \text{ mm} \dots$

$205 \text{ mm} \approx \dots 210 \text{ mm} \dots$

$100 \text{ mm} \approx \dots 100 \text{ mm} \dots$

$372 \text{ mm} \approx \dots 370 \text{ mm} \dots$

b) the nearest 100 mm

$184 \text{ mm} \approx \dots 200 \text{ mm} \dots$

$687 \text{ mm} \approx \dots 700 \text{ mm} \dots$

$185 \text{ mm} \approx \dots 200 \text{ mm} \dots$

$205 \text{ mm} \approx \dots 200 \text{ mm} \dots$

$100 \text{ mm} \approx \dots 100 \text{ mm} \dots$

$372 \text{ mm} \approx \dots 400 \text{ mm} \dots$

2

The length of a line is about 12 cm, rounded to the nearest cm.
How long could the actual length of the line be?

Draw 4 possible lines accurately. Write the actual length below each line.

4 lines of different lengths, each one

$$11 \text{ cm } 5 \text{ mm} \leq \text{length} < 12 \text{ cm } 5 \text{ mm}$$

$$(115 \text{ mm} \leq \text{length} < 125 \text{ mm})$$

Correct lengths written below each line.

3

a) Write these lengths in millimetres.

i) $12 \text{ cm} = \boxed{120} \text{ mm}$

ii) $3 \text{ cm } 3 \text{ mm} = \boxed{33} \text{ mm}$

$1 \text{ cm } 2 \text{ mm} = \boxed{12} \text{ mm}$

$30 \text{ cm } 3 \text{ mm} = \boxed{303} \text{ mm}$

$10 \text{ cm } 2 \text{ mm} = \boxed{102} \text{ mm}$

$3 \text{ m } 30 \text{ cm} = \boxed{3300} \text{ mm}$

$102 \text{ cm} = \boxed{1020} \text{ mm}$

$3 \text{ m } 3 \text{ cm} = \boxed{3030} \text{ mm}$

$120 \text{ cm} = \boxed{1200} \text{ mm}$

$3 \text{ m } 3 \text{ mm} = \boxed{3003} \text{ mm}$

$1 \text{ m } 2 \text{ cm} = \boxed{1020} \text{ mm}$

$33 \text{ cm } 3 \text{ mm} = \boxed{333} \text{ mm}$

$1 \text{ m } 2 \text{ mm} = \boxed{1002} \text{ mm}$

$30 \text{ cm } 30 \text{ mm} = \boxed{330} \text{ mm}$

b) List them in increasing order.

i) $\dots 12 \text{ mm} < 102 \text{ mm} < 120 \text{ mm} < 1002 \text{ mm} < 1020 \text{ mm} \dots$
 $\dots = 1020 \text{ mm} < 1200 \text{ mm} \dots$

ii) $\dots 33 \text{ mm} < 303 \text{ mm} < 330 \text{ mm} < 333 \text{ mm} < 3003 \text{ mm} \dots$
 $\dots < 3030 \text{ mm} < 3300 \text{ mm} \dots$

1

Round the lengths given in millimetres to the nearest centimetre. Follow this pattern:

$$658 \text{ mm} \approx 660 \text{ mm}, \quad 660 \text{ mm} = 66 \text{ cm}$$

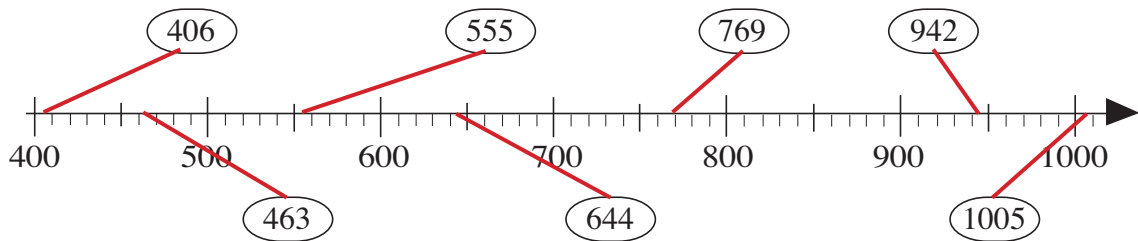
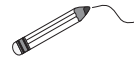
$$658 \text{ mm} \approx 66 \text{ cm}$$

- a) $324 \text{ mm} \approx \boxed{32} \text{ cm}$ $324 \text{ mm} \approx 320 \text{ mm}, \quad 320 \text{ mm} = 32 \text{ cm}$
 $324 \text{ mm} \approx 32 \text{ cm}$
- b) $530 \text{ mm} \approx \boxed{53} \text{ cm}$ $530 \text{ mm} = 53 \text{ cm}$

- c) $799 \text{ mm} \approx \boxed{80} \text{ cm}$ $799 \text{ mm} \approx 800 \text{ mm}, \quad 800 \text{ mm} = 80 \text{ cm}$
 $799 \text{ mm} \approx 80 \text{ cm}$
- d) $2002 \text{ mm} \approx \boxed{200} \text{ cm}$ $2002 \text{ mm} \approx 2000 \text{ mm}, \quad 2000 \text{ mm} = 200 \text{ cm}$
 $2002 \text{ mm} \approx 200 \text{ cm}$

2

Join up these numbers to the **approximate** place on the number line.



3

a) Complete the table.

Number	Rounded to nearest 10	Rounded to nearest 100
943	940	900
304	300	300
184	180	200
765	770	800
125	130	100
550	550	600
247	250	200
805	810	800

b) List all the 3 digit whole numbers which have:

- 5 as the tens digit when rounded to the nearest ten,
- and also
- 5 as the hundreds digit when rounded to the nearest hundred.

3 digit numbers are:

450, 451, 452, 453, 454
 545, 546, 547, 548, 549