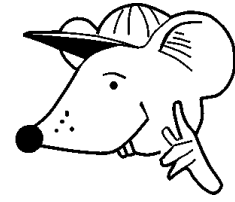


MATHEMATICS



NCT Practice Paper No: 4

Key Stage 2

Levels 3 - 5

Test B

Calculator Allowed

MathSphere

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MATHEMATICS

Key Stage 2

TEST B Levels 3 - 5**Calculator Allowed**

Page

Marks

Page

Marks

4

10

5

11

6

12

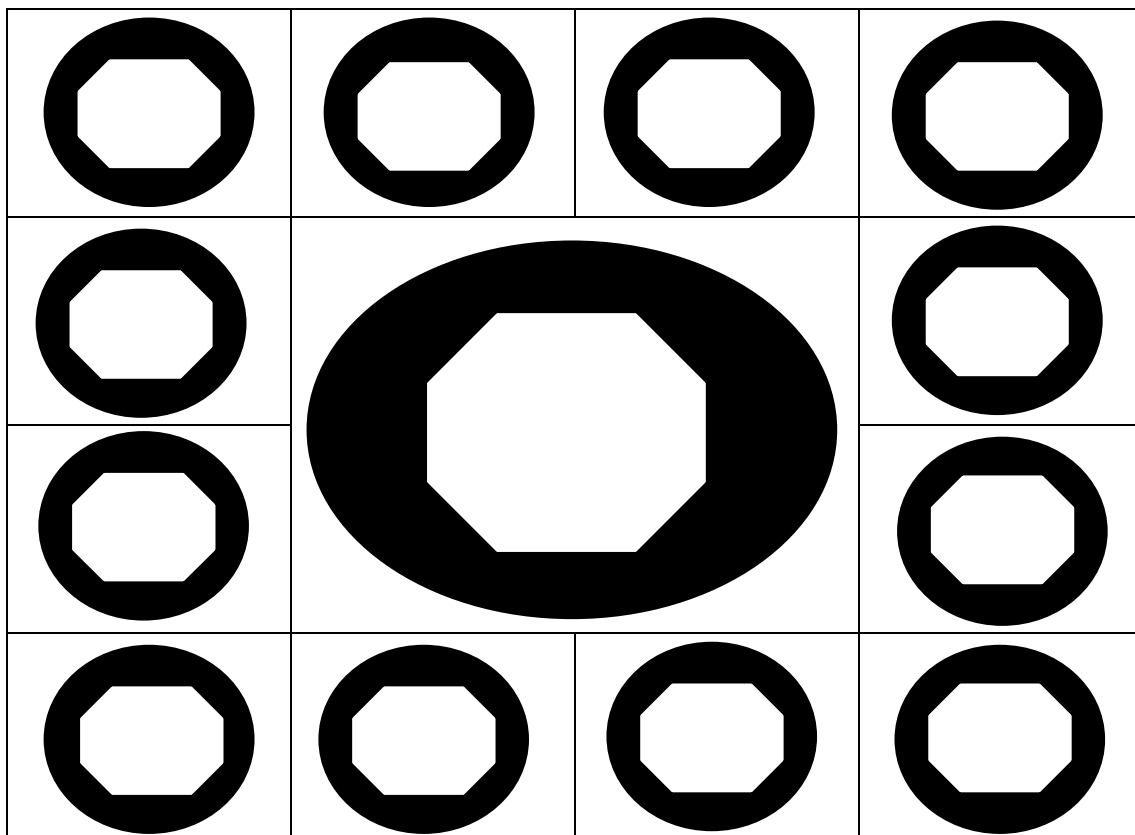
7

13

8

14

9

TOTAL**First Name****Last Name****Name of School**

INSTRUCTIONS

If you wish you **may** use a calculator to answer the questions.

Always work as quickly as you can.

Do not waste time on one question. Go on to another question if you find one difficult.

Always check your work if you have time at the end.

Time allowed for this test: **45 minutes.**

A large box like this means you must show your working:

Show your working



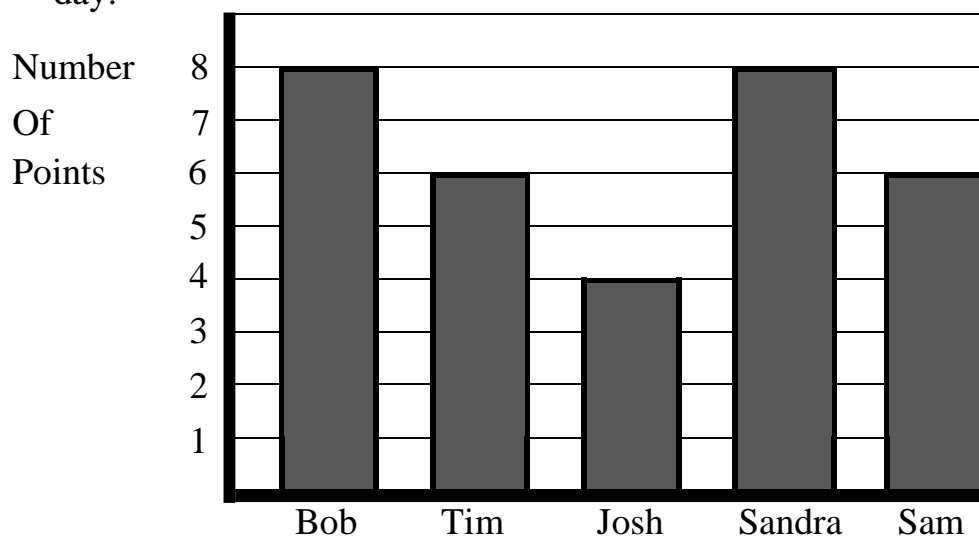
1. Write what the **two missing numbers** might be.

$$\boxed{} + 56 - \boxed{} = 72$$

2. Fill in some **missing numbers** in the boxes to make this true.

$$87 + \boxed{} - \boxed{} = 66$$

3. This graph shows how many points were won by five children in one day.



Which **child** received the **least** number of points?

What is the total number of points received by all the children on that day?

4. Kung-Fud chocolate bars are packed in boxes of 10. The table shows the number of boxes needed to pack them.

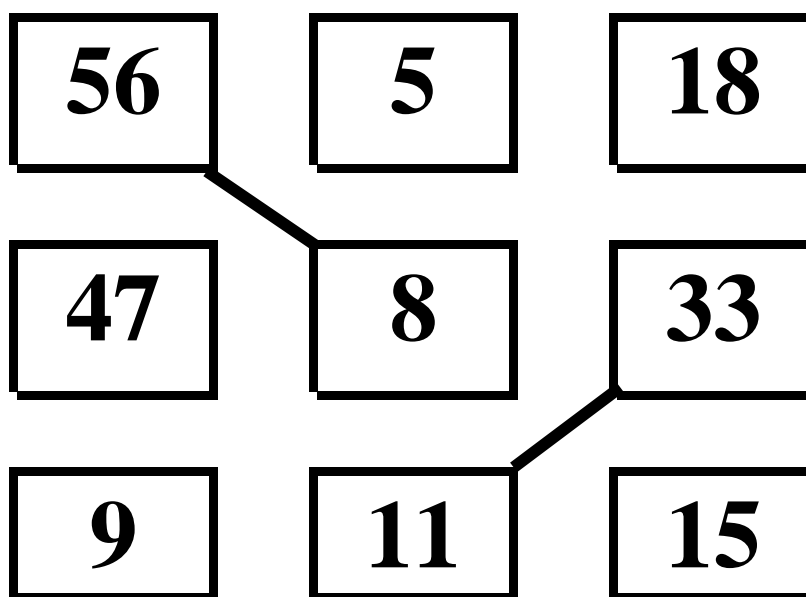
Number of Kung-Fud bars	Number of Boxes Needed
Up to 10	1 box
Up to 20	2 boxes
Up to 30	3 boxes
Up to 40	4 boxes
Up to 50	5 boxes

How many boxes are needed for **34 Kung-Fud bars**?

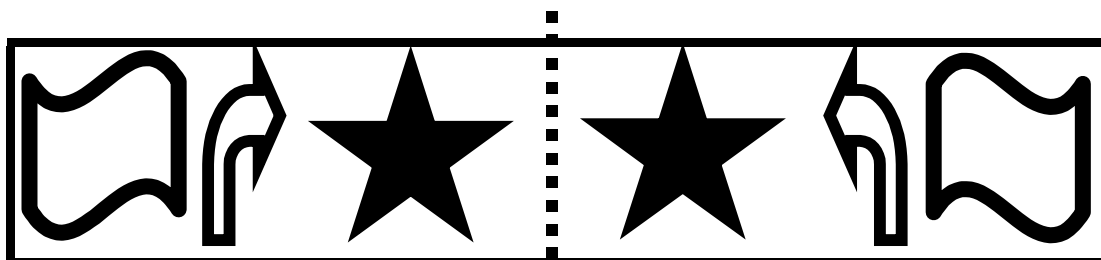
Joanne says that 2 boxes are needed to pack 27 Kung-Fud bars.
Explain why this is wrong.

5. In the diagram numbers are joined together if one is a factor of the other.

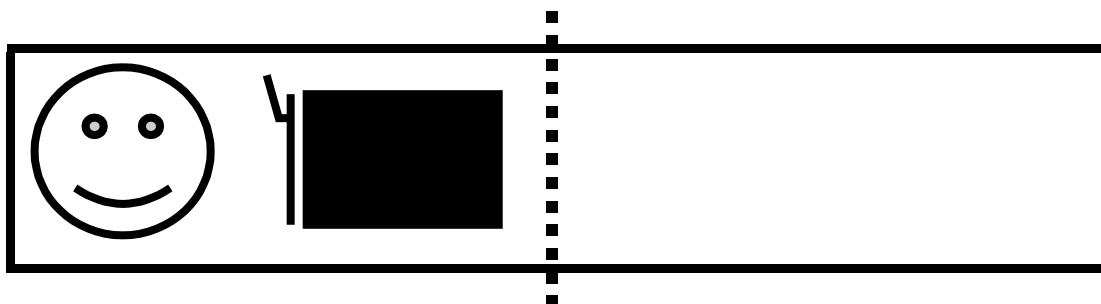
Connect one more number to its factor.



6. These shapes are symmetrical about the dotted line.



Complete **this** picture so that the shapes are symmetrical about the dotted line.



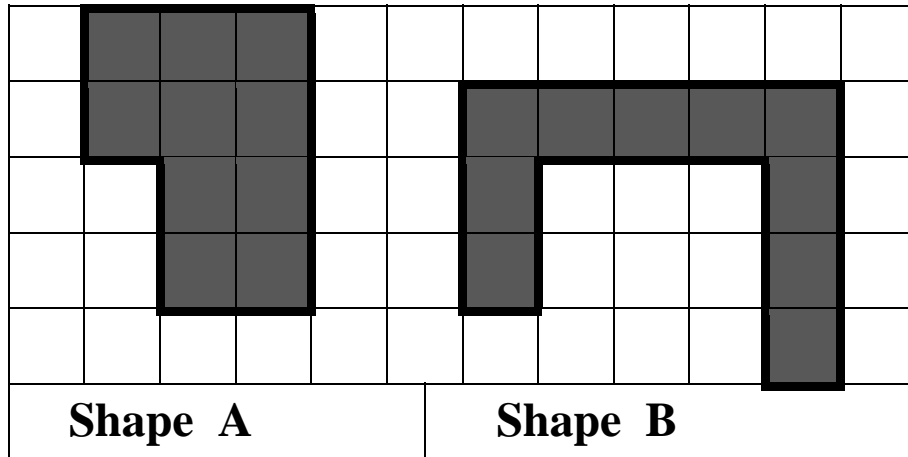
7.



Subby wants to make new waistcoats for friends and buys **6 pieces** of material **each 1.85 metres** long. How much is this altogether?

Show your working

8. Here are two shapes drawn on a grid.

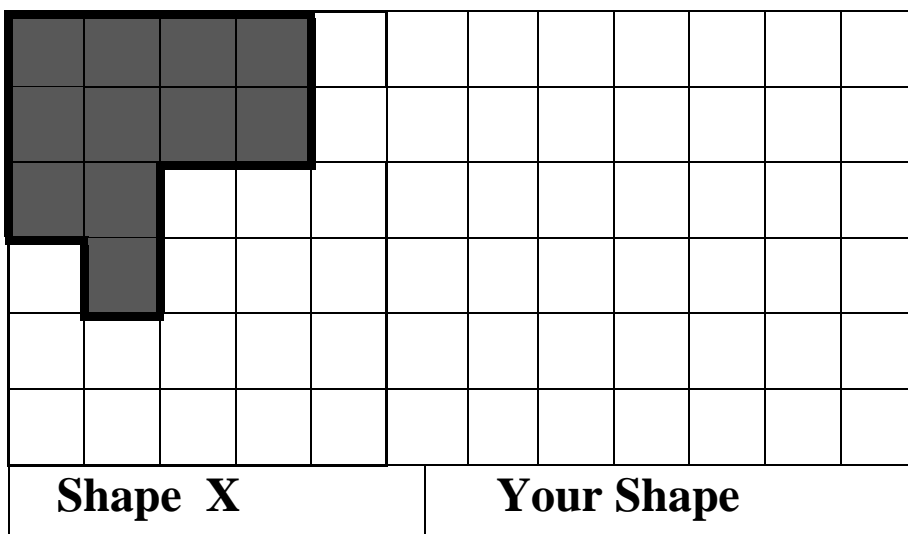


What are the **perimeters** of the two shapes?

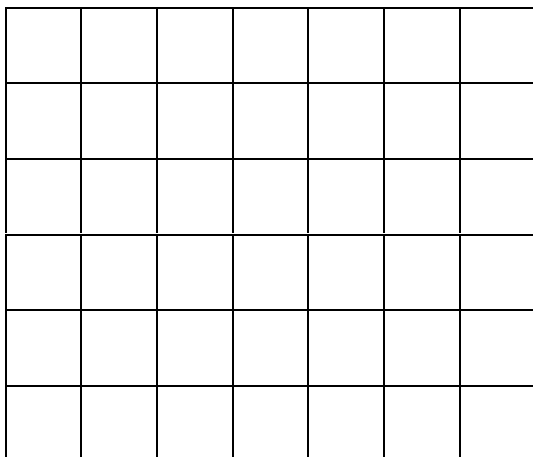
Shape A

Shape B

On this grid draw a **different** shape. Make sure it has the **same perimeter** as **shape X**.



- 9.** Draw a **quadrilateral** on the grid. It must have **pairs of opposite sides the same length** and **no right angles**.



What is your shape called?

- 10.** Here is a sequence of numbers. The rule is:

'double the number and subtract 5'

Put the **next number** in the box.

8 \Rightarrow **11** \Rightarrow **17** \Rightarrow

What is the rule for this sequence?

10 \Rightarrow **30** \Rightarrow **70** \Rightarrow **150**

-
- 11.** What is **38 squared** plus **7.2** ?

12. Put the **same number in each box** to make this statement true.

$$\boxed{} \times 8 + \boxed{} = 54$$

13. Put in the missing digit so that the sum

$$8 \boxed{} 7 \div 7 \text{ has no remainder.}$$

14. Here is a sequence of patterns made from matchsticks.



Pattern 1



Pattern 2



Pattern 3



Pattern 4



Pattern 5

How many matchsticks are there in **pattern 3**?

How many matchsticks will there be in **pattern 10**?

If **m** is the number of the pattern, how many matchsticks will there be in **pattern m** ?

- 15.** Three sacks of potatoes had an average weight of 35Kg. One sack weighed 37 Kg. Another weighed 39Kg.
What was the **total weight of all three sacks?**

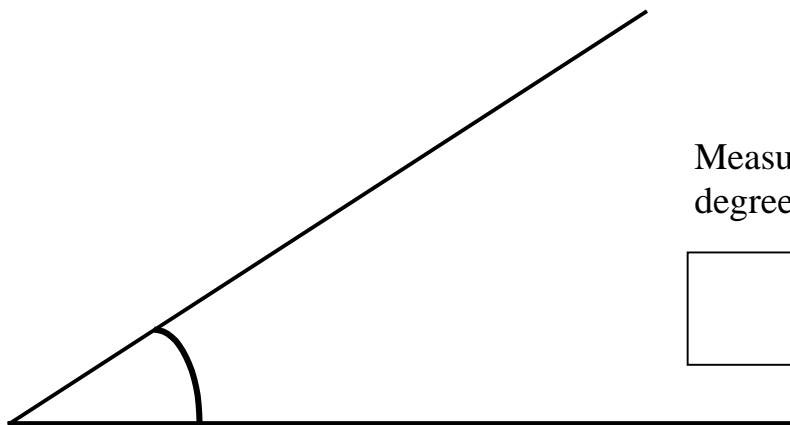
Show your working

What did the third sack weigh?

Another sack weighing 39 Kg was put with the others. What was the average weight of all four sacks?

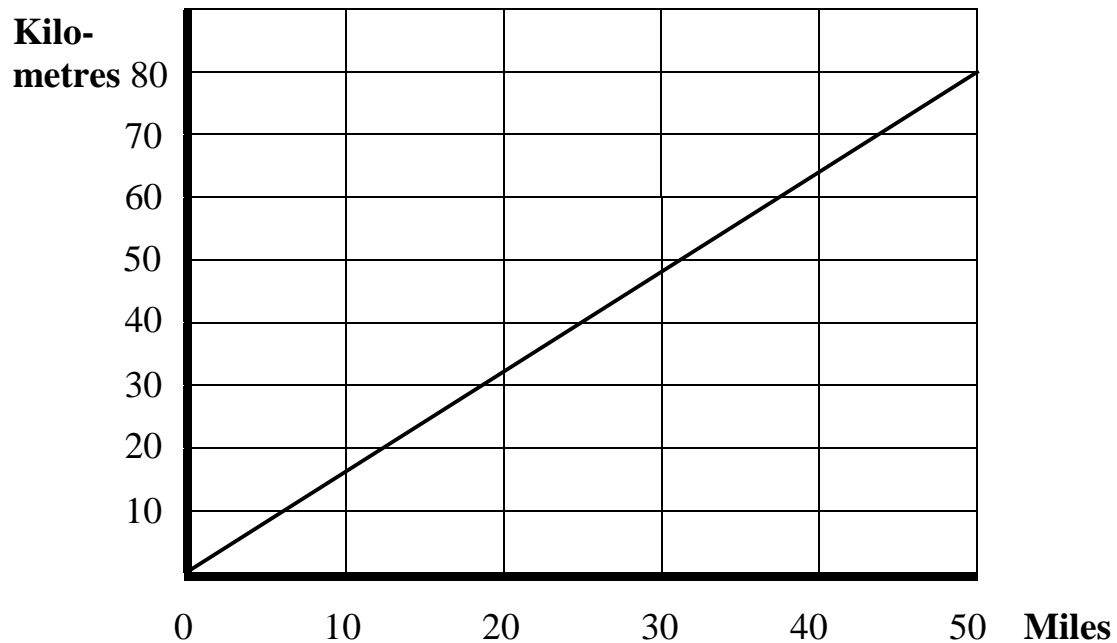
Show your working

16.



Measure this angle in degrees.

17. This graph shows how to convert **miles** to **kilometres**.



How many kilometres make 25 miles?

A cyclist travels 80 kilometres in 5 hours. What was his average speed in **miles per hour**?

Show your working

18. Write numbers in the empty boxes to give equivalent fractions.

$$\frac{\boxed{3}}{\boxed{}} = \frac{\boxed{}}{\boxed{24}}$$

Complete the table below. The first row has been done for you.

Fraction	Decimal	Percentage
$\frac{1}{2}$	0.50	50%
$\frac{3}{4}$	0.75	
	0.20	
		10%

- 19.** To make concrete a builder uses 1 part cement, 7 parts gravel and 3 parts water. To make the concrete foundation for a house he needed 3.5 cubic metres of gravel. How much **water** did he need?

Show your working

Cu. metres

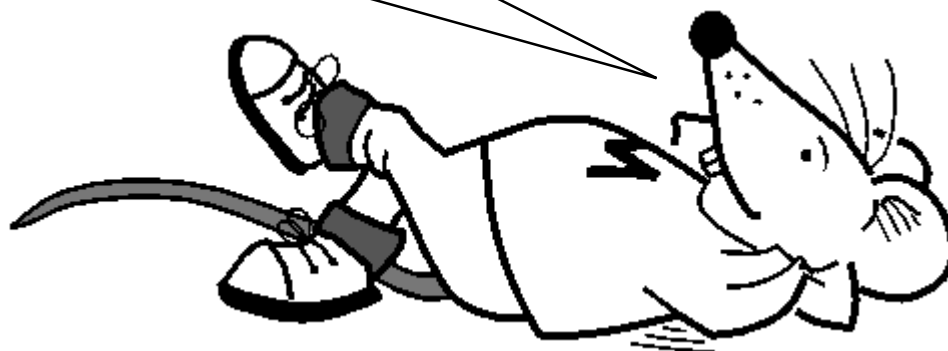
- 20.** A driver of a large crane charges £20 to take his crane to a building site and £2 for every tonne he has to lift. Write a formula to calculate how much he charges if:

t is the number of tonnes.

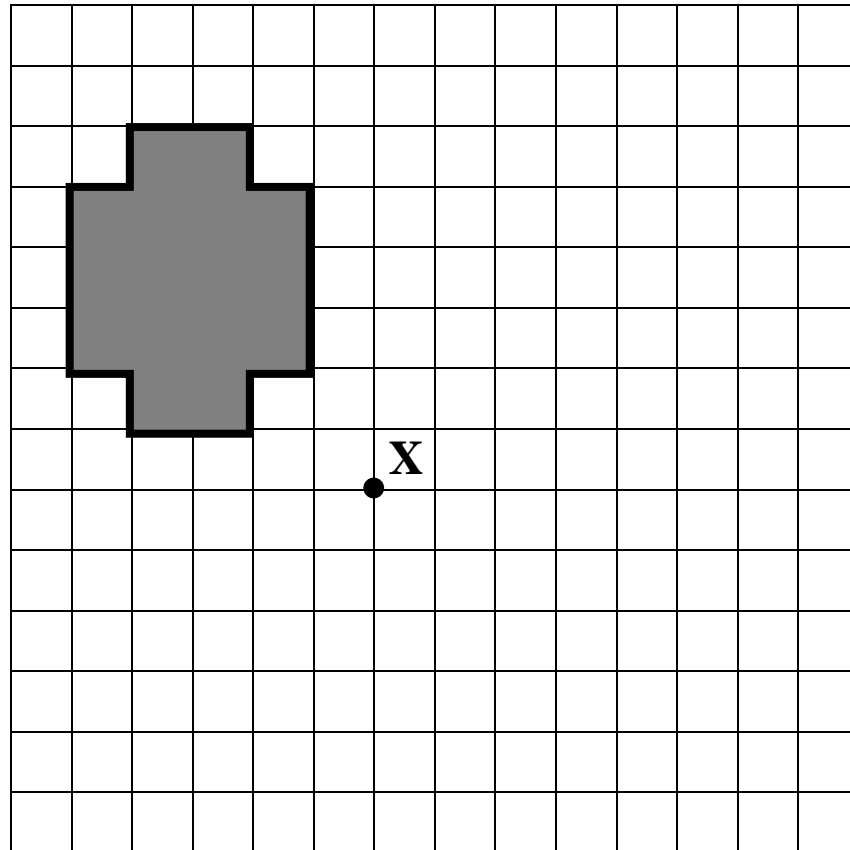
C is the complete cost **in pounds**.

C =

You cannot afford to take this lying down! Not long now, though!



21.



Rotate the grey shape **90°** clockwise about the point **X**. Draw the new shape on the grid.

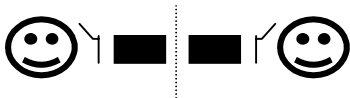
You may use tracing paper or an angle measurer if you wish.

End of Test.



Do not forget to check your work carefully, please!

Answers

Answer	Mark	Answer	Mark						
1. First No. – second No. should equal 16.	1	12. 6 in each box	1						
2. First No. – second No. should equal –21.	1	13. 4	1						
3. a) Josh (not 4!). b) 32 points.	1 2	14. a) 7 b) 21 c) 2m + 1 or equivalent.	1 1 1						
4. a) 4 b) Two boxes is only enough for 20 bars. Seven bars would be left over.	1 2	15. a) Showing 35 x 3. Answer of 105 Kg. b) 29 Kg. c) 105 + 39 = 144 Showing 144 ÷ 4 Answer 36 Kg.	1 1 1 1 1 1						
5. 5 with 15 OR 9 with 18	1	16. 33° ± 2°	1						
6. 	1 1	17. a)40 Km b)80 Km = 50 Miles Showing 50 ÷ 10 Answer 10 mph.	1 1 1 1						
7. 1.85 x 6 Answer = 11.10 metres (units not necessary)	1 1	18. a)Giving equivalent fractions. b) <table style="display: inline-table;"><tr><td></td><td>75%</td></tr><tr><td>2/10 (1/5)</td><td>20%</td></tr><tr><td>1/10 0.10</td><td></td></tr></table>		75%	2/10 (1/5)	20%	1/10 0.10		2 1 2 2
	75%								
2/10 (1/5)	20%								
1/10 0.10									
8. a) Shape A is 14 units. b) Shape B is 22 units. c) Any shape with 16 units perimeter.	1 1	19. Correct working. Answer 1.5 cubic metres.	1 1						
9. Shape fits definition. Parallelogram.	1 1	20. C = 2t + 20	2						
10. a) 29 b) Double and add 10.	1 1	21. Correct position Correct orientation Clockwise rotation.	1 1 1						
11. 1451.2	1	TOTAL	50						