



St Mary's School  
CAMBRIDGE

# Year 6 Maths

## Sample Test

**Time allowed: 45 minutes**

**Name:** \_\_\_\_\_

### **INSTRUCTIONS :**

- Answer all questions
- Answers should be written in the spaces provided

## **Year 6 KEY OBJECTIVES ASSESSED**

Order a mixed set of numbers with up to three decimal places.

Reduce a fraction to its simplest form by cancelling common factors.

Use a fraction as an operator to find fractions of numbers or quantities (e.g.  $\frac{5}{8}$  of 32,  $\frac{7}{10}$  of 40,  $\frac{9}{100}$  of 400 centimetres).

Understand percentage as the number of parts in every 100, and find simple percentages of small whole-number quantities.

Solve simple problems involving ratio and proportion.

Derive quickly division facts corresponding to multiplication tables up to  $10 \times 10$ .

Carry out short multiplication and division of numbers involving decimals.

Carry out long multiplication of a three-digit by a two-digit integer.

Use a protractor to measure acute and obtuse angles to the nearest degree.

Calculate the perimeter and area of simple compound shapes that can be split into rectangles.

Read and plot co-ordinates in all four quadrants.

Identify and use the appropriate operations (including combinations of operations) to solve word problems involving numbers and quantities, and explain methods and reasoning.

Solve a problem by extracting and interpreting information presented in tables, graphs and charts

## Y6 NUMBER

1. Calculate

Show your working

a)  $£3.62 \times 4$

1

b)  $£1.36 \times 7$

1

c)  $348 \times 29$

2

2. Calculate

Show your working

a)  $£5.04 \div 6$

1

b)  $1598 \div 34$

2

3. a) Write out these decimal numbers **in order** from the **lowest** to the **highest**.

0.03

1.1

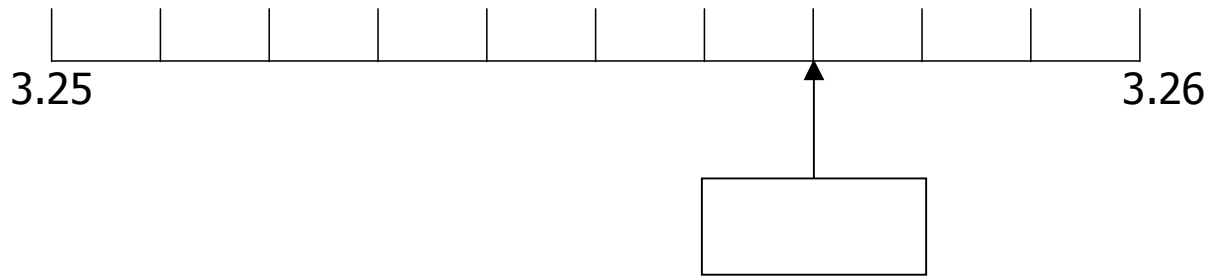
0.217

1.07

2.206

1

b) What number does the arrow indicate?



1

4. Put a ring around the fraction which is equivalent to 3

$\frac{3}{8}$

$\frac{8}{3}$

$\frac{20}{3}$

$\frac{24}{8}$

$\frac{15}{8}$

1

5. Put a ring around the fraction which is equivalent to  $\frac{40}{60}$

$\frac{1}{2}$

$\frac{3}{4}$

$\frac{2}{3}$

$\frac{5}{6}$

$\frac{1}{3}$

1

6. Write a fraction in the boxes to complete the sentence.

$$\frac{1}{2} < \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} < \frac{2}{3}$$

1

7. Write out these quantities **in order** from **lowest** to **highest**.

0.5kg

400g

$\frac{1}{4}$ kg

0.6kg

$\frac{2}{3}$ kg

1

8. Calculate

$$\frac{1}{4} \text{ of } 36 = \square$$

$$\frac{1}{7} \text{ of } 28 = \square$$

$$\frac{5}{8} \text{ of } 32 = \square$$

$$\frac{7}{10} \text{ of } \square = 35$$

4

### MONEY AND MEASURE PROBLEMS – NO CALCULATOR

9.



pen £ 2.95



CD £ 10.45



T-shirt £ 5.30

Show your working

a) How much would a pen and a T-shirt cost?

1

b) How much would three CDs cost?

1

c) How many pens could you buy for £ 20?

1

d) If you bought 3 pens and 2 T-shirts, how much change would you receive from £ 20?

1

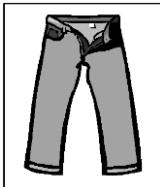
10.

**PERCY'S SALE**  
**ALL GOODS REDUCED BY 10%**

Show your working

Calculate the missing prices:

a)



Was **£60** .....now down to **£**

b)



Was **£** .....now down to **£6.30**.

11. a) 8 bars of chocolate cost £ 2.80.  
What is the cost of each chocolate bar?

b) 20 cans of cola cost £ 9.00.  
What is the cost of each can?

12.



Bob's cup contains  $\frac{1}{2}$  litre of water.  
Jane has one quarter of the amount of  
water that is in Bob's cup.

a) How much water is in Jane's cup?

 ml

b) How much water would have to be added to Jane's cup so  
that she had the same amount of water as Bob?

 ml

13. This chart shows temperatures recorded at noon for some world cities.

City	Temperature
Sydney	28°C
Paris	12.5°C
London	9°C
Oslo	8°C
Moscow	-8.5°C

a) Which two cities have a difference in temperature of 21°C?

and

1

b) How much warmer is Oslo than Moscow?

°C

1

## HANDLING DATA

14. SCHOOL SURVEY

CLASS	BOYS	GIRLS	TOTAL
Reception	15	15	?
Y1	17	12	29
Y2	14	15	29
Y3	17	16	33
Y4	?	13	29
Y5	11	21	32
Y6	18	14	32
TOTAL	108	?	?

a) Complete the chart.

3

b) One day one eighth ( $\frac{1}{8}$ ) of Y6 were absent. How many children in Y6 were present?

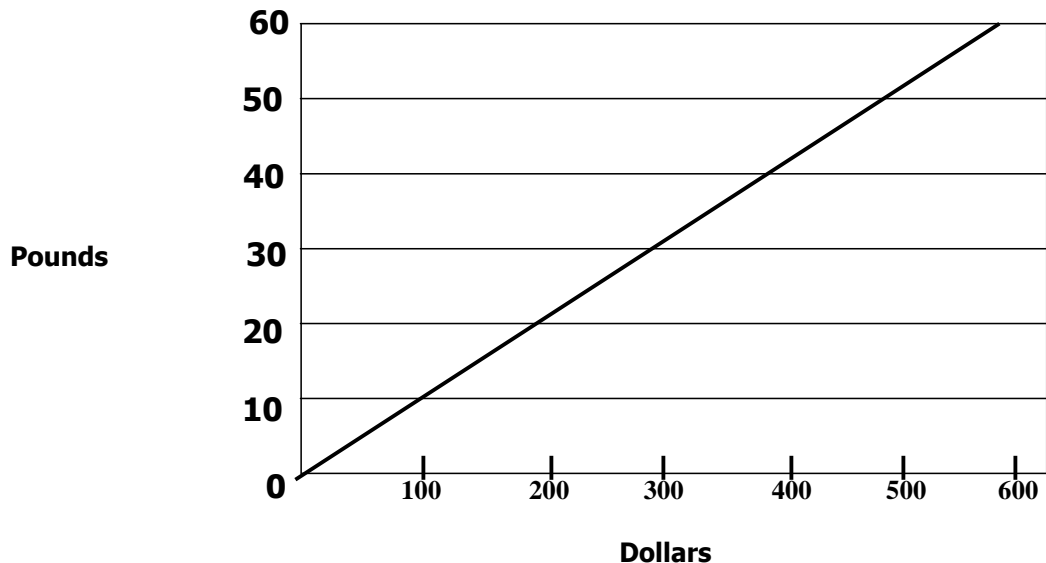
children

1

15.

### CURRENCY CHART

(currency conversion – Pounds and Hong Kong Dollars)



£1 can be exchanged for 9.7 dollars

a) How many dollars could be exchanged for £50?

1

b) How many pounds could be exchanged for 291 dollars?

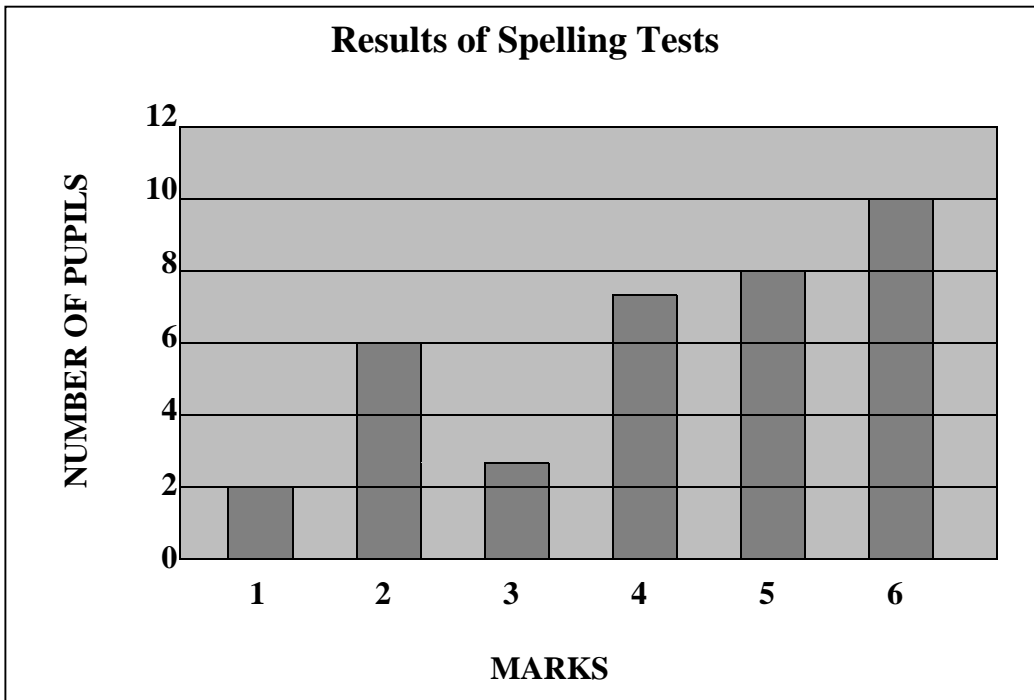
1

c) Look at the graph. Approximately, how many dollars could be exchanged for £17?

1



16. Y4 completed a spelling test.  
 The test was marked out of 10  
 The teacher put their results in a graph



a) How many pupils did the spelling test?

1

b) Sally said, " 25 children scored half marks or more"

Was she correct? Yes  No

Explain your answer:

1

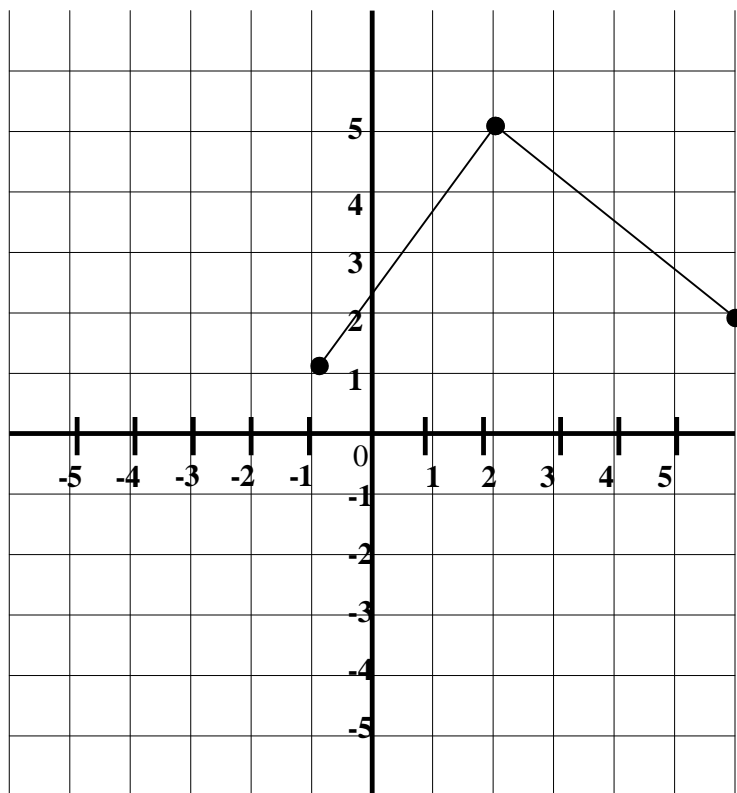
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17 a) Look at the Diagram

**SHAPE AND SPACE**

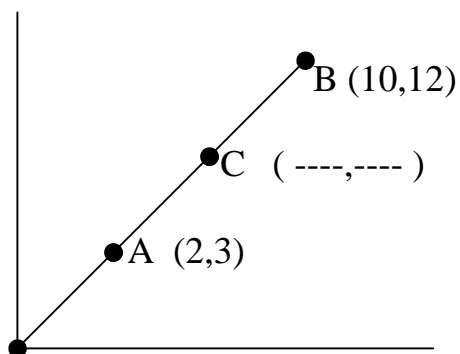


- The points  $(-1, 1)$ ,  $(2, 5)$  and  $(6, 2)$  are three of the four vertices of a square. Plot the co-ordinates on the grid.

What are the co-ordinates of the fourth vertex?

1
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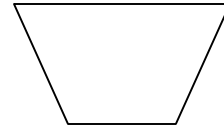
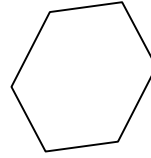
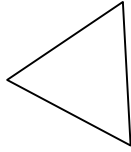
b) Look at the diagram



C is halfway between A and B. What are the co-ordinates of C?

2
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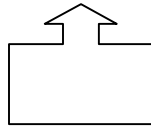
18. Tick the shape with only one pair of parallel sides.



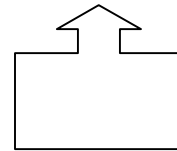
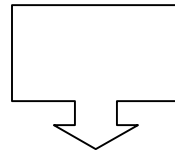
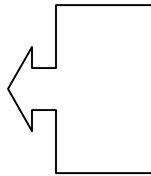
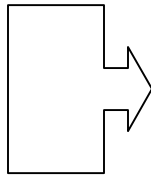
1

19.

This Shape



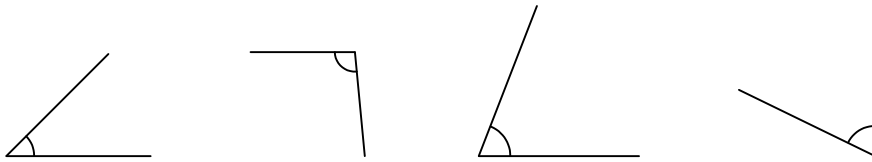
is rotated through  $90^\circ$  anti-clockwise



Tick the shape that shows the new position.

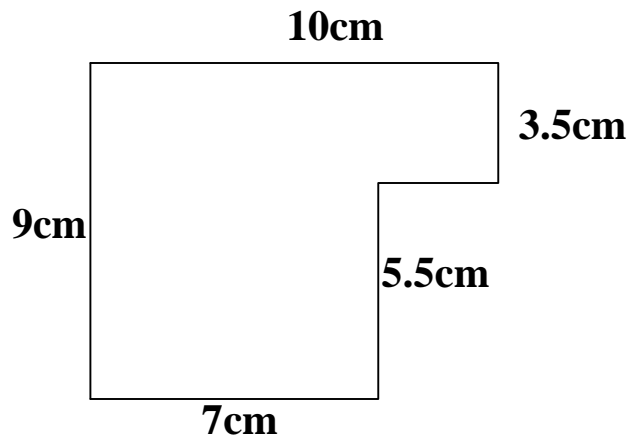
1

20. Use a protractor to measure these angles.  
Tick the shape with an angle of  $69^\circ$



2

21.



a) What is the perimeter of the shape?

cm

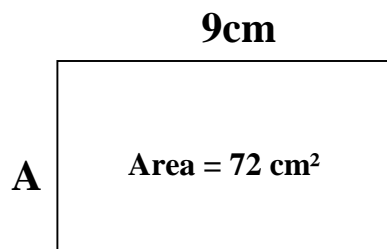
1

b) What is the area of the whole shape?

cm<sup>2</sup>

1

22. Look at the rectangle.



What is the length of side A?

cm

1

## SOLVING PROBLEMS USING A CALCULATOR



23.

a)  $1276 + \boxed{\phantom{0000}} = 2127$

b)  $\boxed{\phantom{0000}} - 370 = 237$

c)  $17 \times \boxed{\phantom{0000}} = 1156$

d)  $\boxed{\phantom{0000}} \div 13 = 154$

e)  $156.06 \div \boxed{\phantom{0000}} = 8.67$

f)  $47.23 \times \boxed{\phantom{0000}} = 661.22$

6

24. 1827 people buy tickets to watch a rugby match.  
Each ticket costs £ 9.50.  
What is the total amount of ticket money collected?

1

25. Programmes cost £ 1.25 each. The total money from  
programme sales is £1096.25.  
How many programmes were sold?

1

26. Pencils are 16.4 cm long. How many pencils can be cut  
from a length 20 metres long?

1

27. Train carriages hold 86 passengers. How many carriages would a train need in order to seat 1500 passengers?

1

28. Pencils weigh 7.3 g each.  
What would be the mass of 580 pencils?

1

29. Small bags of flour weigh 250g.  
How many bags can be made from 90kg of flour?

2

30. There are 225 children in a school.  $\frac{3}{5}$  of them are girls.

How many boys are there?

1

31.

**JOE'S GARAGE**

Joe has to add Value Added Tax (VAT) to all bills.  
20% of the bill is added to pay for VAT.

Complete the chart below to work out the total bills.

VEHICLE	COST OF WORK	VAT CHARGED AT 20%	TOTAL BILL
Car	£ 100	£ 20.00	£ 120.00
Van	£ 120		
Mini-bus	£ 150		
Coach	£ 190		

3