

Name:

Date:

## Year 6 Reasoning Quiz 1

### Reading and Writing Numbers up to 10 000 000

#### 10, 100 and 1000 More or Less Than a Number

1. Write the number that is 100 less than one million.

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2. Write the number in words that is 30 less than 300 000.

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3. 678 is 200 less than what number?

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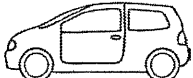
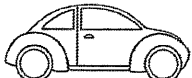
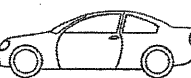
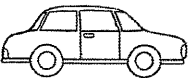
4. Write in words the number that is half of one million and ten.

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### Order and Compare Numbers

5. Put these cars in order of price, starting with the lowest price. One has been done for you.

|   |   |  |  |   |
|---|---|--|--|---|
| A<br><br>£31,750 | B<br><br>£30,570 | C<br><br>£3,900 | D<br><br>£37,150 | E<br><br>£31,900 |
|---|---|--|--|---|

**B**

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### Roman Numerals

9. Here is a number written in Roman numerals. DCCIX

Write the number in figures.

10. Write the year 2017 in Roman numerals.

8. In the number 217 361.05

a) Which digit is in the hundreds place?

b) Which digit is in the tenths place?

7. In the number 178 390.82

a) Which digit is in the ten thousands place?

b) Which digit is in the hundredths place?

### Place Value

6. Order the following numbers from smallest to largest.

|      |      |     |      |       |
|------|------|-----|------|-------|
| 11.1 | 1.01 | 1.1 | 10.1 | 10.11 |
|------|------|-----|------|-------|

### Rounding

11. Round 263 874

a) to the nearest 10 000 \_\_\_\_\_

b) to the nearest 1 000 \_\_\_\_\_

c) to the nearest 100 \_\_\_\_\_

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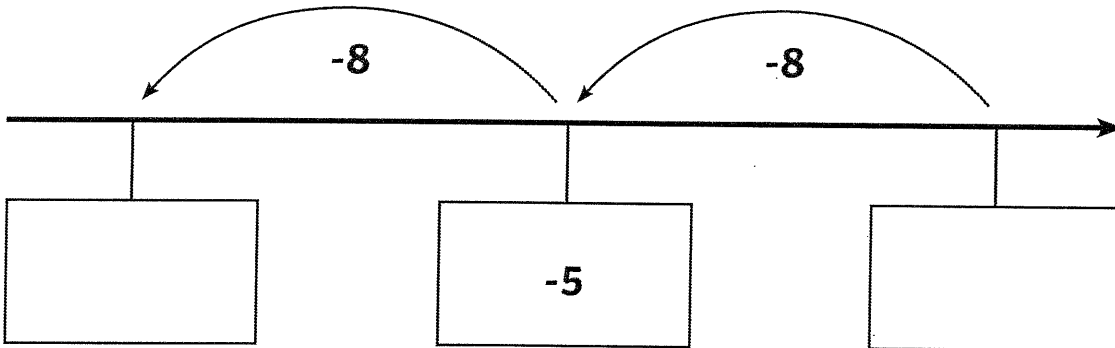
### Negative Numbers

12. What number is 12 more than -7? \_\_\_\_\_

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13. Here is part of a number line.

Write the missing numbers in the boxes.



.....

14. The temperature outside is  $-4^{\circ}\text{C}$  and inside is  $15^{\circ}\text{C}$ . What is the difference in temperature between the outside and inside?

\_\_\_\_\_

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**\*\*END OF TEST\*\***

## Year 6 Reasoning Quiz 2

### Missing Number Questions

Name:

Date:

1. Write the three missing digits to make this addition correct.

$$\begin{array}{r} \square 5 2 \\ + \square 1 \square \\ \hline \square 2 7 \end{array}$$

2. Write the four missing digits to make this subtraction correct.

$$\begin{array}{r} \square 4 \square \\ - \square 8 \square \\ \hline \square 4 \square 6 \end{array}$$

3. Write the three missing digits to make this addition correct.

$$\begin{array}{r} \square 2 6 \\ + \square 2 6 \\ \hline \square 0 \square 5 \end{array}$$

4. Write the three missing digits to make this subtraction correct.

$$\begin{array}{r}
 71\boxed{\phantom{0}} \\
 - 4\boxed{\phantom{0}}3 \\
 \hline
 \boxed{\phantom{0}}93
 \end{array}$$

5. Write the two missing digits to make this long multiplication correct.

$$\begin{array}{r}
 5\boxed{\phantom{0}} \\
 \times \boxed{\phantom{0}}4 \\
 \hline
 228 \\
 1140 \\
 \hline
 1368
 \end{array}$$

6. Complete this division calculation by filling in the missing numbers.

$$\begin{array}{r}
 265 \\
 \boxed{\phantom{0}} \overline{) \boxed{\phantom{0}}5\boxed{\phantom{0}}5} \\
 \underline{34} \\
 11\boxed{\phantom{0}} \\
 \underline{102} \\
 \boxed{\phantom{0}}5 \\
 \boxed{\phantom{0}}5 \\
 \hline
 00
 \end{array}$$





# Year 6 Reasoning Quiz 3

Name:

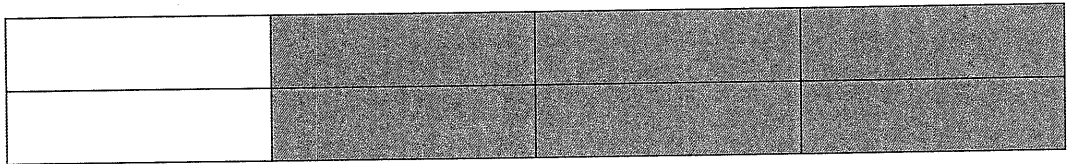
Date:

## Equivalent Fractions

1. Write the two missing values to make these equivalent fractions correct.

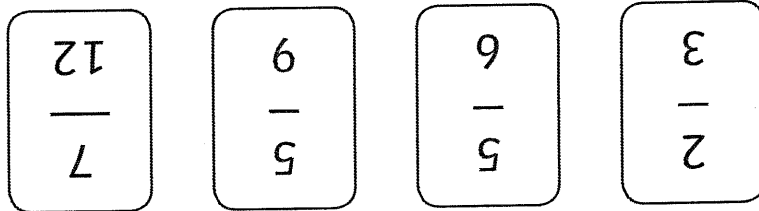
$$\frac{\square}{6} = \frac{12}{9} = \frac{4}{\square}$$

2. Write 2 equivalent fractions that can be represented by this drawing:



\_\_\_\_\_ and \_\_\_\_\_

3. Here are four fraction cards.



Use any three of the cards to make this correct.

$$\square > \square > \square$$







**Decimal Number Problems**

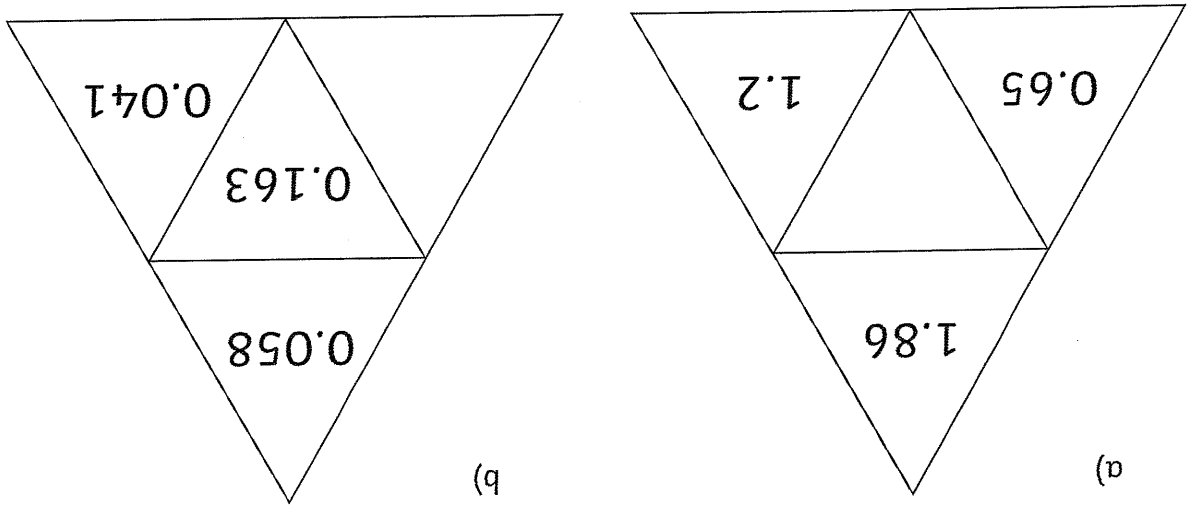
7. Circle two numbers that add together to equal 0.75.

0.03                      0.7                      0.72                      0.07

8. Continue the sequence to put the correct numbers in the unshaded boxes.

|      |      |      |      |      |
|------|------|------|------|------|
| 0.04 | 0.05 | 0.06 | 0.07 | 0.08 |
| 0.12 | 0.13 | 0.14 | 0.15 | 0.16 |
|      |      |      |      |      |
|      |      |      |      |      |
|      |      |      |      |      |

9. Complete the triangles so that the number in the centre is the sum of the numbers on the outside.

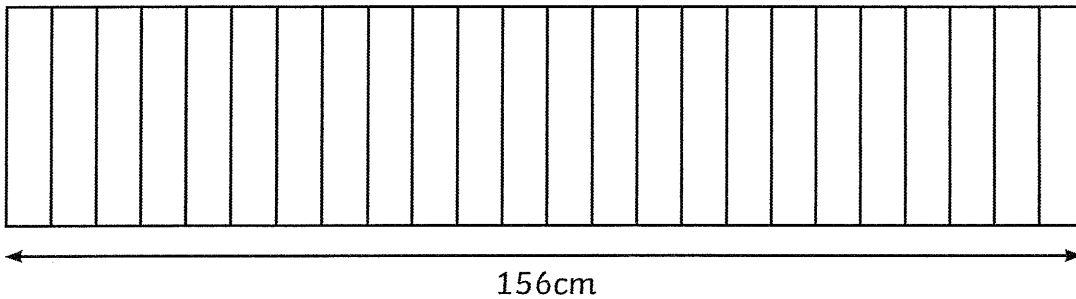


10. Round the following decimal numbers:

|       | Rounded to nearest |  |
|-------|--------------------|--|
| 1.5   | whole number       |  |
| 2.928 | tenths             |  |
| 0.185 | hundredth          |  |

Ratio

11. 24 identical books are on a shelf



Another four of the same book is added to the shelf.  
 What is the width of the books now?

Show your method.



Name:

Date:

# Year 6 Reasoning Quiz 4

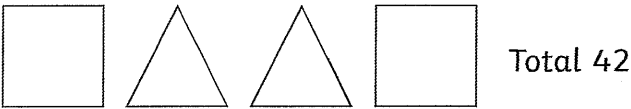
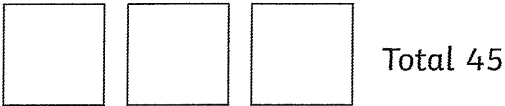
## Algebra

1.  $n = 24$   
What is  $3n - 15$ ?

2.  $28 - 3t = 10$   
Work out the value of  $t$ .

$t =$

3. Each shape represents a number.



Work out the value of each shape.

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=

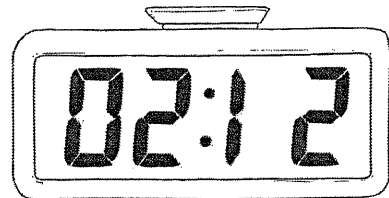
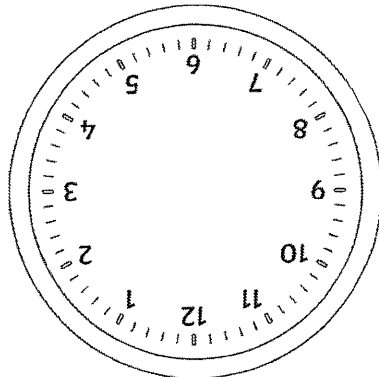
4. A plumber charges the following for any work done.

call-out charge = £15  
hourly rate = £21

Write a formula to explain what the plumber will charge for any number of hours work.

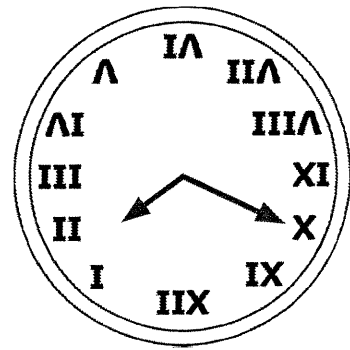
**Time**

5. Draw the hands on this clock to show the time on this digital clock.

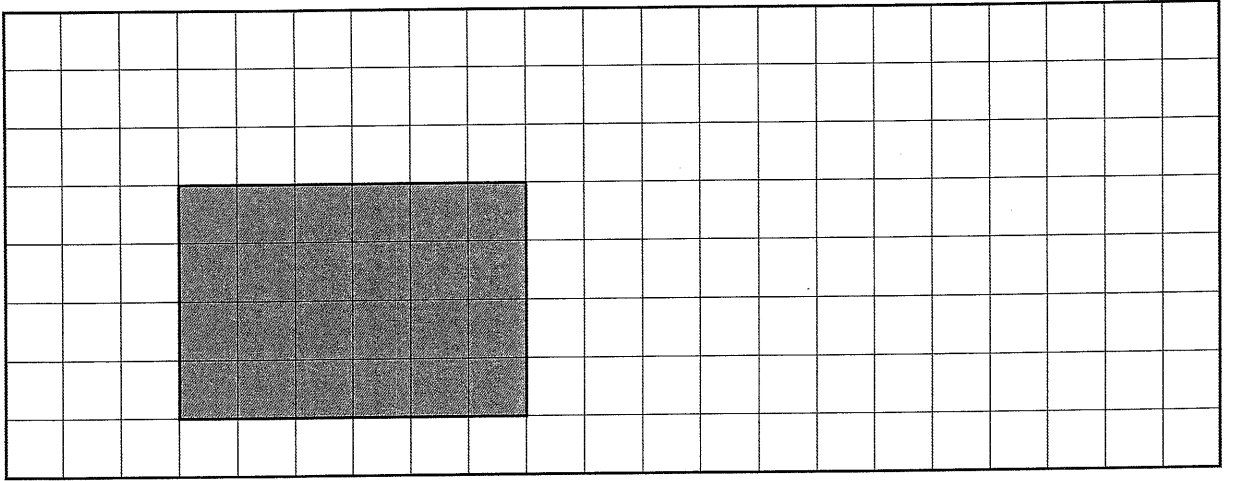


6. A film is 132 minutes long. It starts at 14:50. What time will it finish?

7. This clock is 17 minutes slow. What is the correct time?

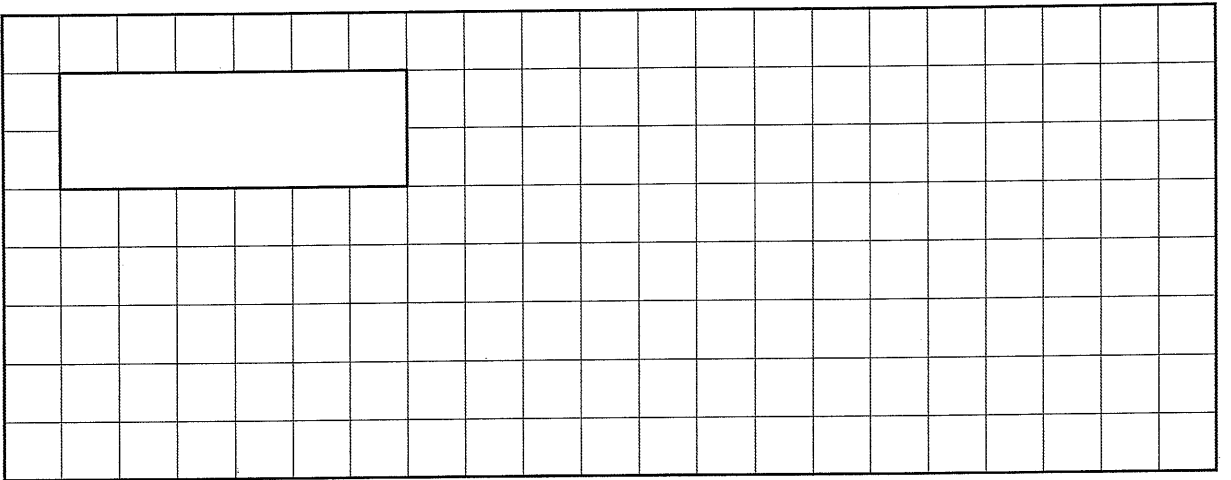






11. On the grid, draw a triangle with the same area as this rectangle.

### Area and Perimeter



What is the cost of one packet of crisps? Show your method.



He pays with a £5 note. This is his change.

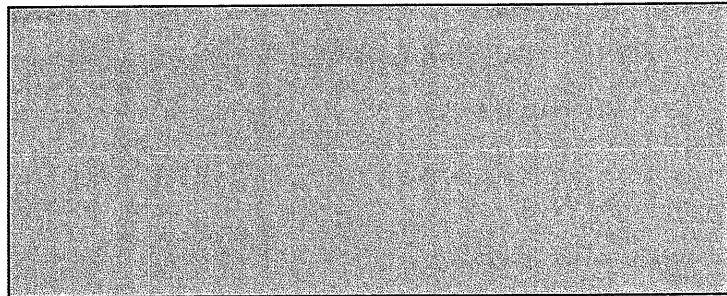
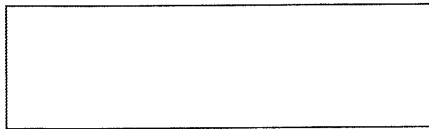


10. Robert buys 4 packets of crisps.

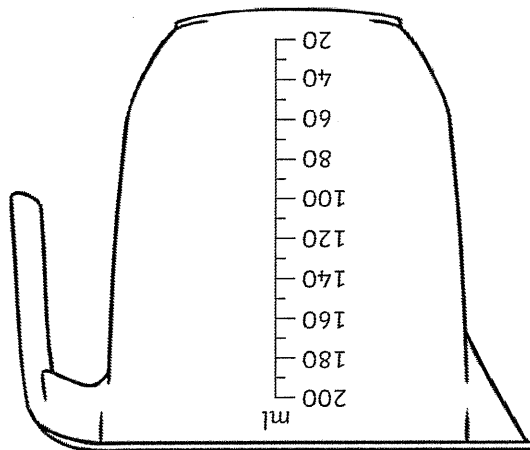




\*\*END OF TEST\*\*



15. Measure the diagonal of this rectangle.



14. A jug contains 200ml of milk. Janek pours 135ml of milk into a bowl.  
Mark on the jug how much milk will be left in the jug.

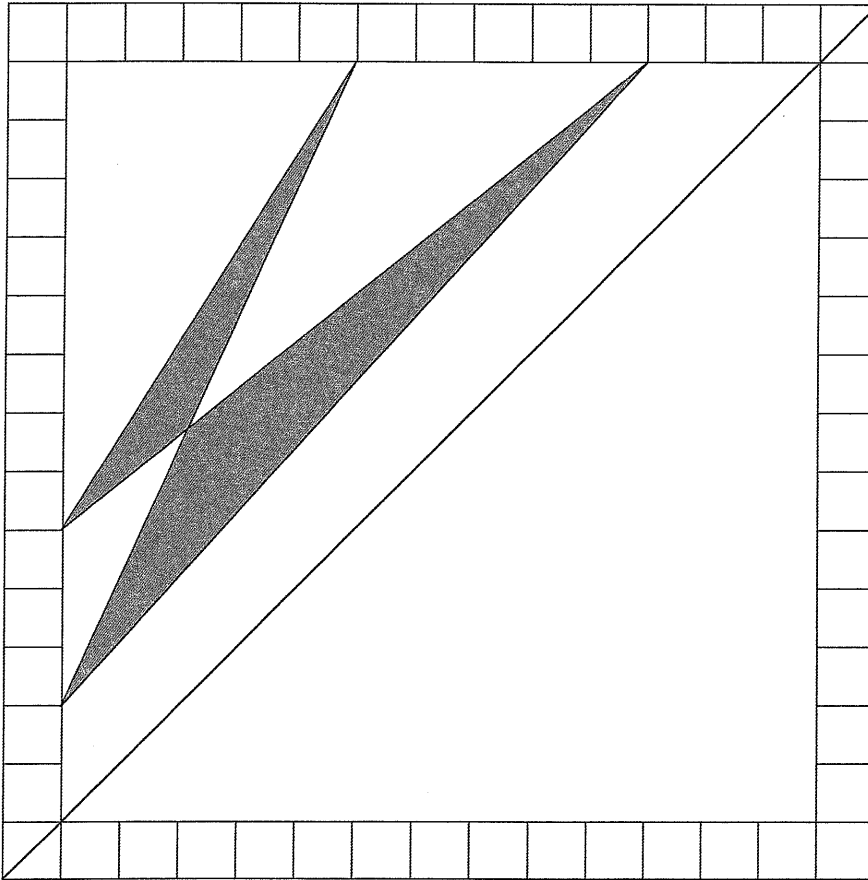
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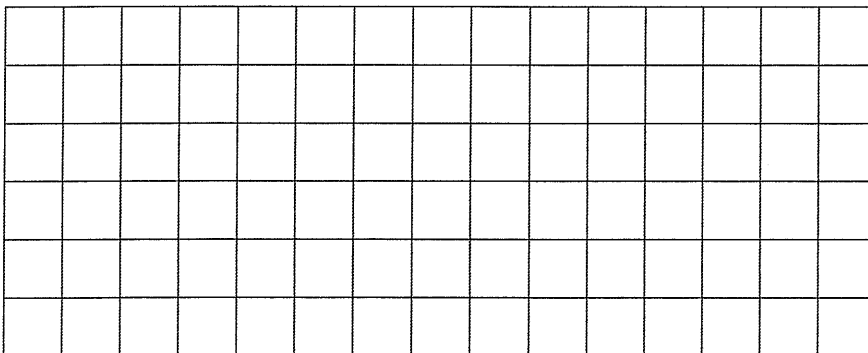
## Year 6 Reasoning Quiz 5

### Symmetry

1. Draw the reflection of this shape in the mirror line.

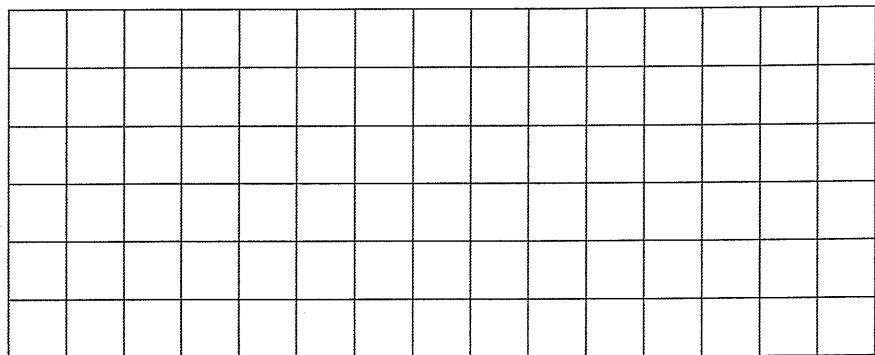


2. Draw an isosceles triangle on the grid and mark any lines of symmetry.

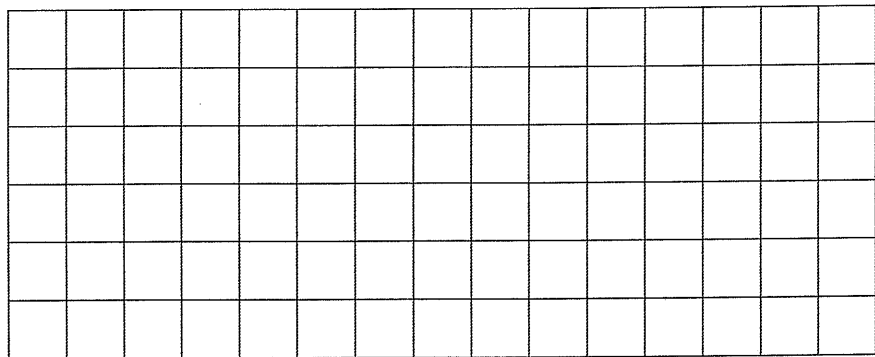


### Properties of Shape

3. On this grid, draw a quadrilateral with 2 sides perpendicular and no sides parallel.

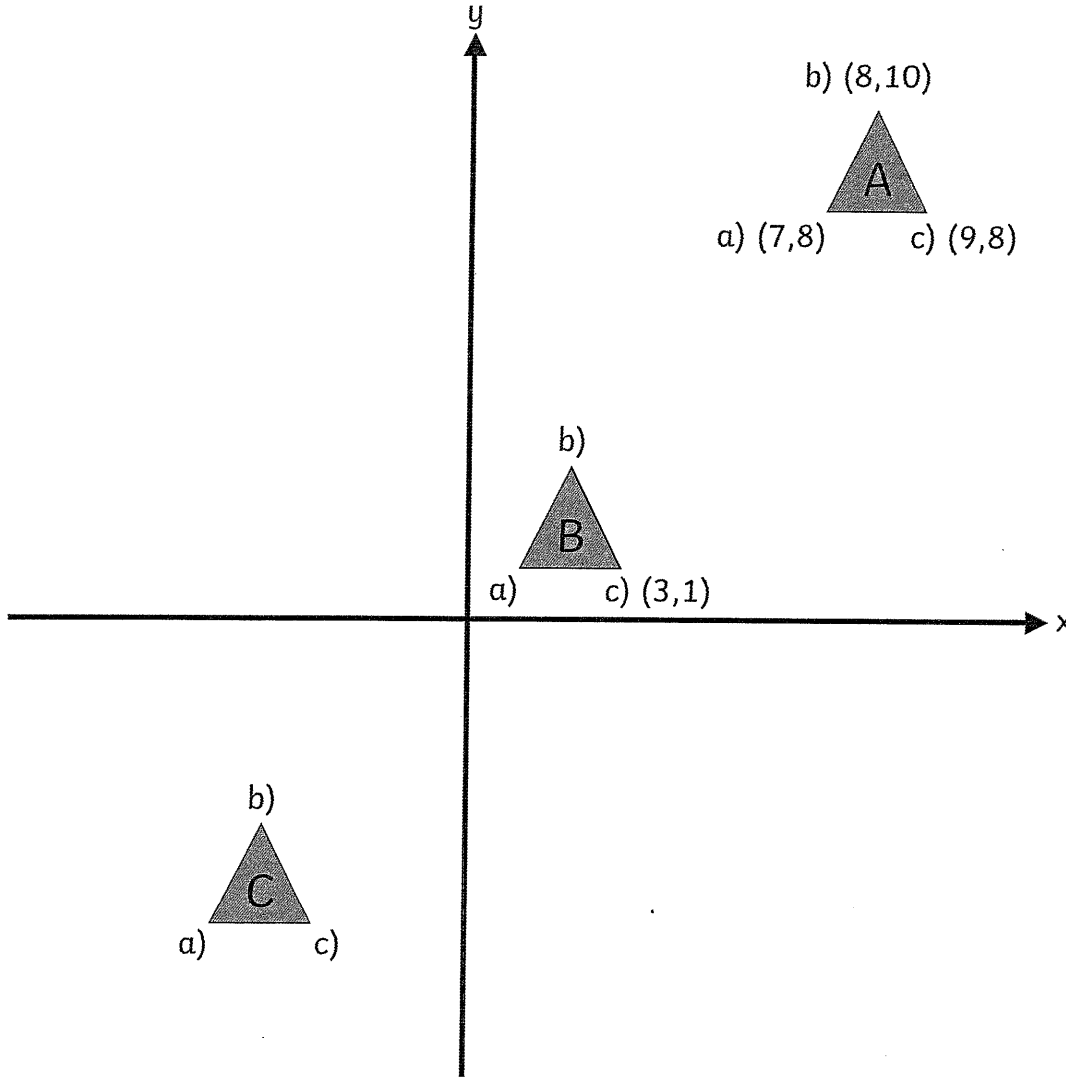


On this grid, draw a quadrilateral with 2 sides that are parallel and no sides that are perpendicular.



### Coordinates

4. Shape A is translated to Shape B. Shape B is then translated in the same way to Shape C. Complete the coordinates of Shapes B and C.



Shape A coordinates

a) (7,8)

b) (8,10)

c) (9,8)

Shape B coordinates

a) \_\_\_\_\_

b) \_\_\_\_\_

c) (3,1)

Shape C coordinates

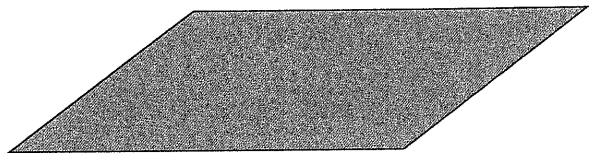
a) \_\_\_\_\_

b) \_\_\_\_\_

c) \_\_\_\_\_

### Angles

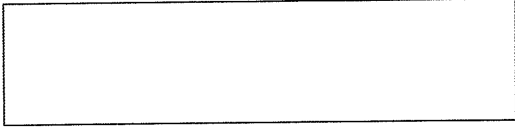
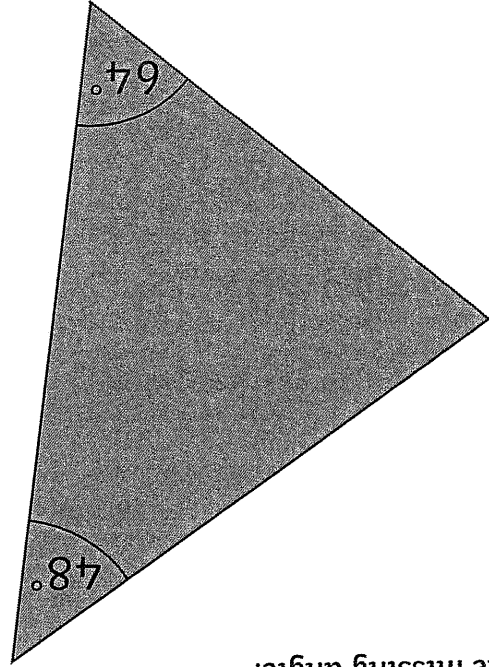
5. Accurately measure the different angles in this parallelogram.



6. Draw a line at an angle of  $72^\circ$  to this line.



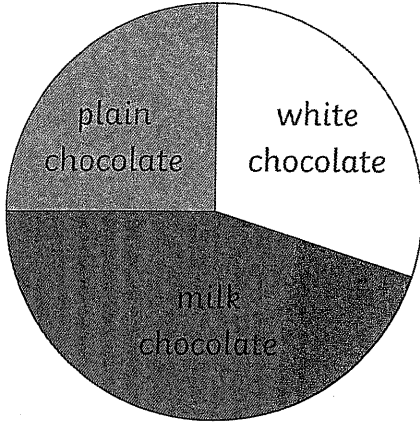
7. Find the missing angle.



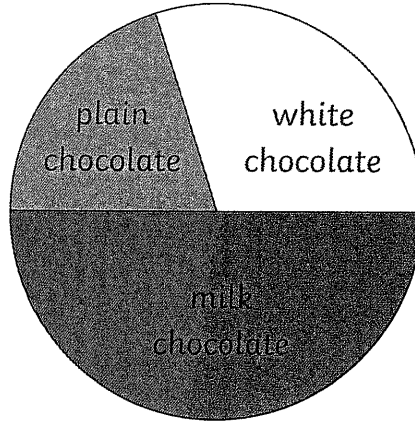
**Pie Charts**

8. 100 girls and 50 boys were asked which kind of chocolate they like best.

These two pie charts show the results.



100 girls

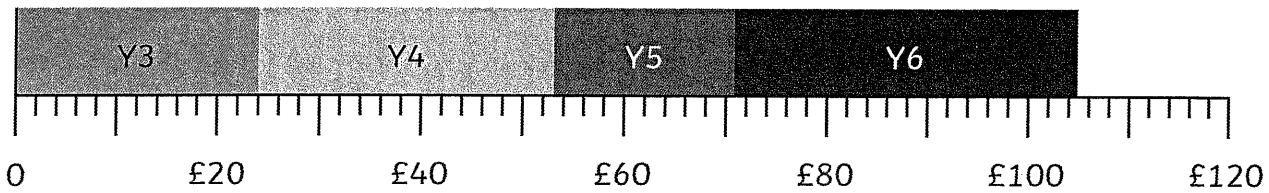


50 boys

Explain why the number of girls who preferred plain chocolate is the same as the number of boys who preferred milk chocolate.

9. Each class raises some money for charity.

This bar chart shows how much each class raised



a) Which classes raised more than £25?

b) Which classes raised more; Year 3 and 4 combined or Year 5 and 6 combined?

