



# Maths Points

Junior and Leaving Cert

## JCOL BASIC SKILLS PACK 10

JUNIOR CERT ORDINARY LEVEL





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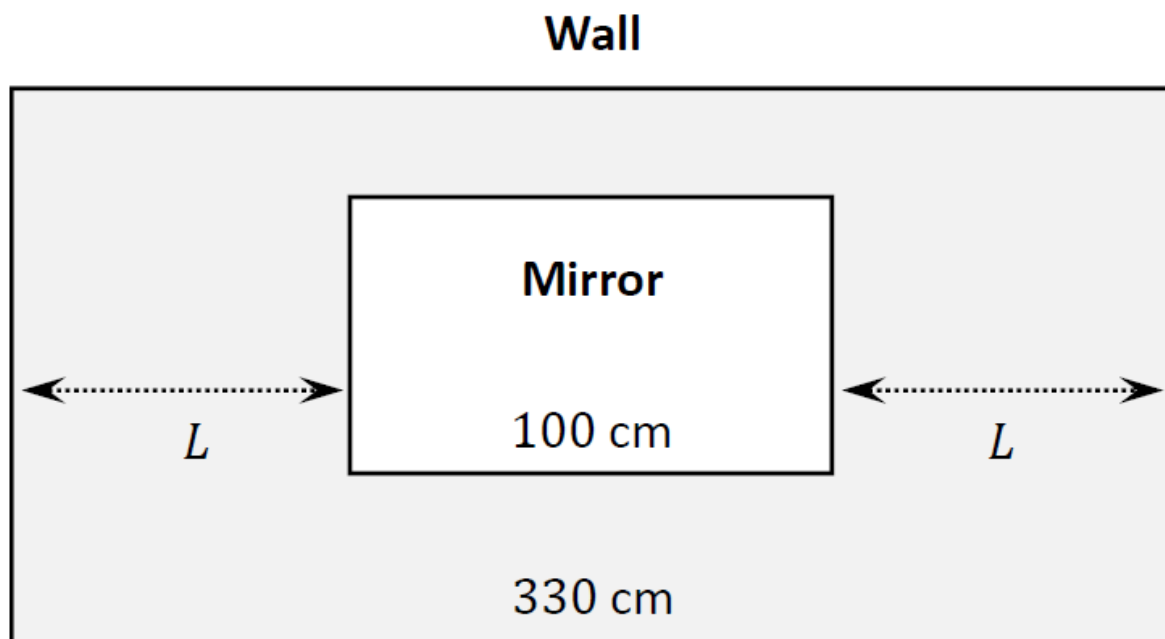


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Damien is putting a mirror on a wall. The wall is 330 cm wide and the mirror is 100 cm wide. Damien wants to put the mirror in the middle of the wall, as shown.

Work out the value of  $L$ , the distance from the mirror to each end of the wall.



To find  $L$  we subtract the length of the mirror from the length of the wall and divide by 2.

$$2L + 100 = 330$$

$$2L = 330 - 100$$

$$L = \frac{330 - 100}{2}$$

$$L = \frac{230}{2}$$

$$L = 115 \text{ cm}$$

€10 000 is invested at 1.5% per annum, compound interest.  
What is the amount of the investment at the end of one year?

Multiply the amount  
invested by the interest rate.

$$10000 \times 0.015 = 150$$

Add this to the original.

$$\begin{array}{r} 10000 + \\ \quad 150 \\ \hline 10150 \end{array}$$

OR

Multiply the amount  
invested by 101.5%.

$$10000 \times 1.015 = 10150$$

(ii)

The money is left invested for a second year.  
How much interest is earned over the two years?

Multiply the amount  
invested by the interest rate.

$$10150 \times 0.015 = 152.25$$

Add this to the interest  
earned in year 1.

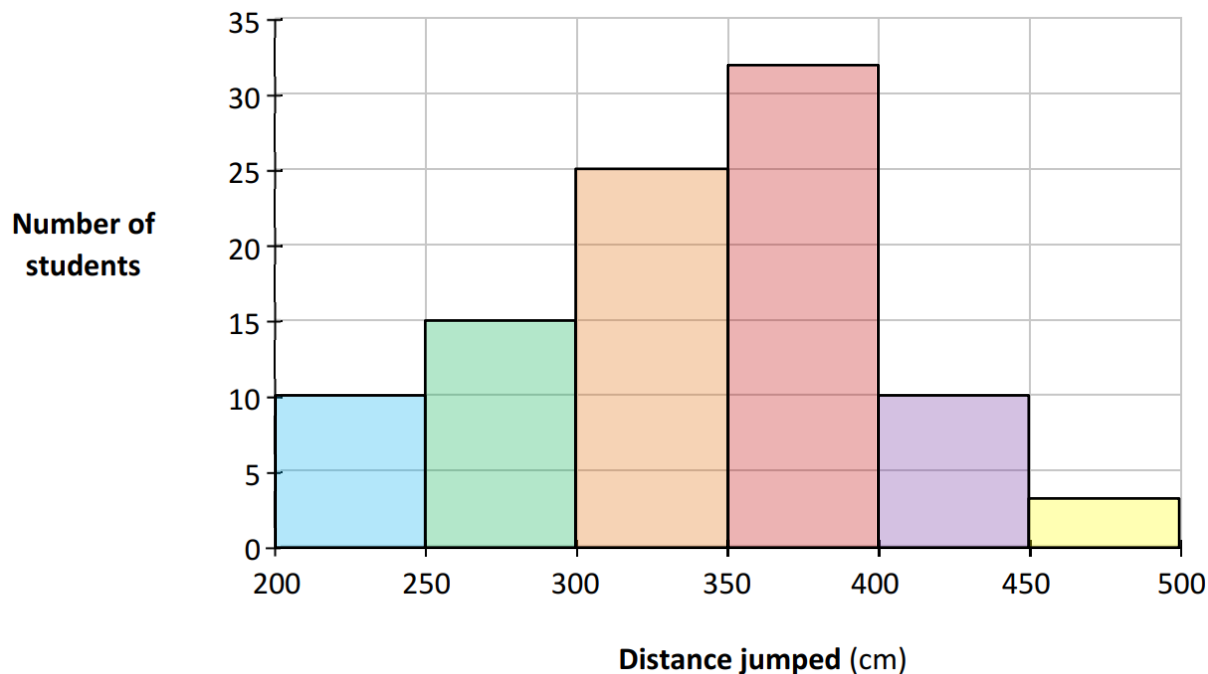
$$\begin{array}{r} 150 + \\ 152.50 \\ \hline 302.50 \end{array}$$

€302.50 interest was earned over 2 years.



Draw a **histogram** to represent the data from the frequency table.  
Use the axes and scales below.

Distance jumped (cm)	200 – 250	250 – 300	300 – 350	350 – 400	400 – 450	450 – 500
Number of students	10	15	25	32	10	3

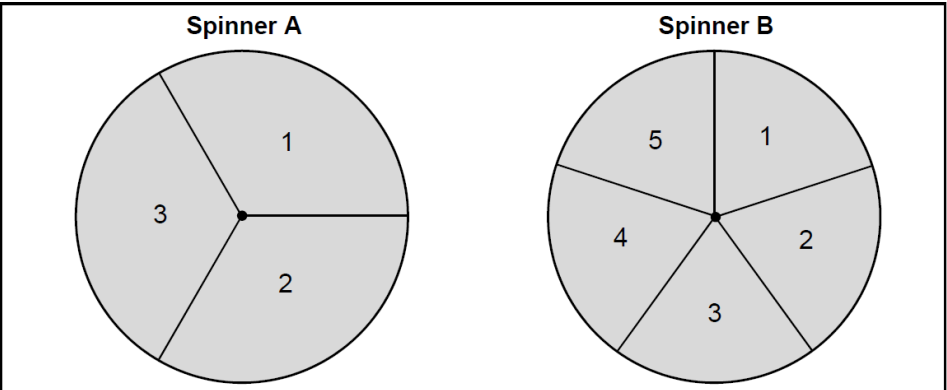


### Labelling the Axis

The top of the table goes on the bottom of the histogram.  
The bottom of the table (the frequency) goes on the side of the histogram.

Paul is raising money for a charity in his school. He organises a fun day where one of the games is played using the spinners and the rules shown below.

Complete the **two-way table** below to show the **sum** of the numbers on the two spinners.



**RULES**

**PAY €1** to play the game (i.e. spin both spinners)

Get the **same number** on both spinners, and **GET €1 BACK**

Get a **sum of 8** on the two spinners, and **GET €8 BACK**

		Spinner B				
		1	2	3	4	5
Spinner A	1	2	3	4	5	6
	2	3	4	5	6	7
	3	4	5	6	7	8

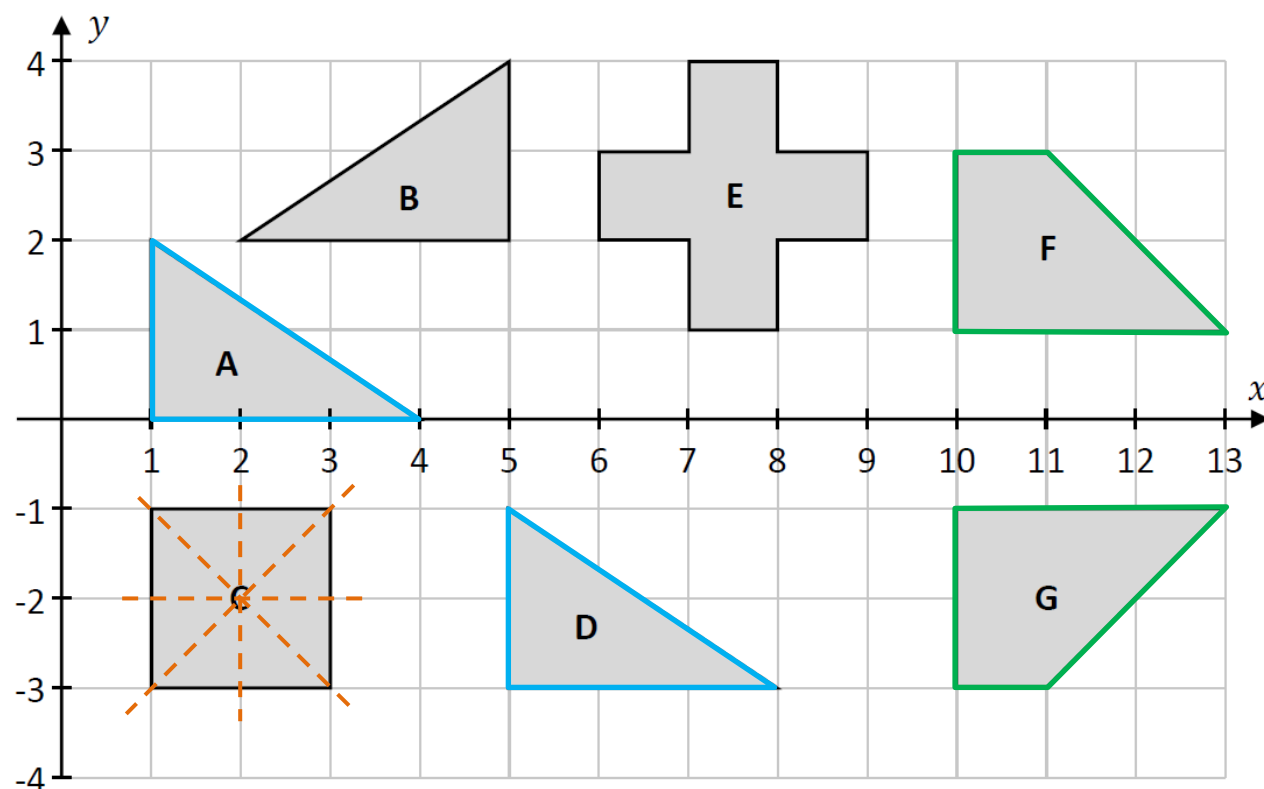
We simply sum the values of the spinners and place in the two-way table.

Seven shapes are shown on the coordinate diagram below. They are labelled A, B, C, D, E, F, and G. Complete each of the following statements correctly.

An **axis of symmetry** is a line that divides an object into two equal halves, so that each side is a mirror image.

**Axial symmetry** is a type of symmetry where an object can be reflected or flipped across a line, called the axis of symmetry, and still look the same.

**Translation** is a transformation where an object is moved or slid in a certain direction without being rotated or flipped.



(i) Shape C has exactly  axes of symmetry.

(ii) Shape G is the image of shape  under axial symmetry.

(iii) Shape A is the image of shape  under a translation.



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