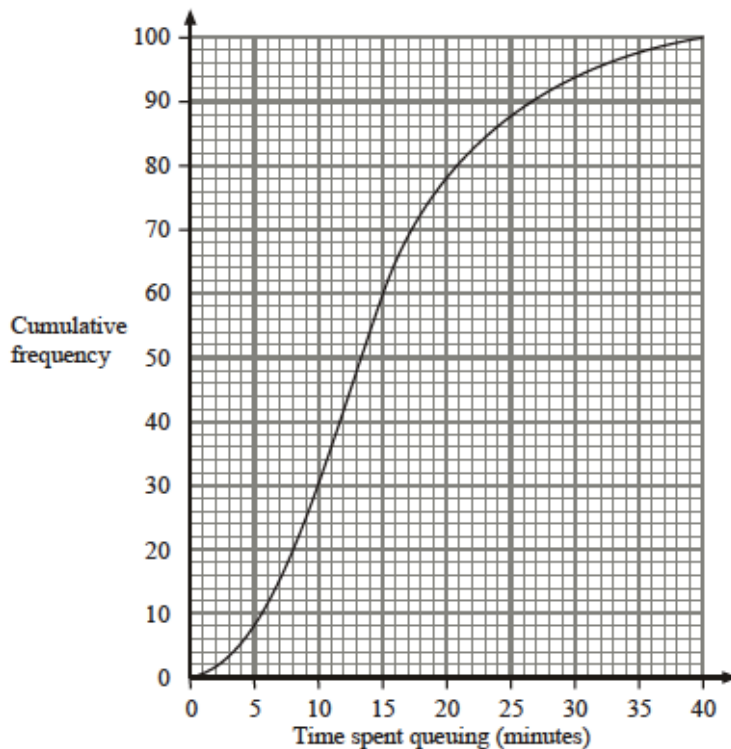


Revision F4 (Topics 11-14) [37]

1.

The time, in minutes, spent queuing in a post office by each of 100 customers is summarised by the cumulative frequency diagram below.



Use the cumulative frequency diagram to estimate

- (a) how many customers queued for more than 25 minutes (2)
- (b) the median queuing time (1)
- (c) the interquartile range of the queuing times. (2)

(Total 5 marks)

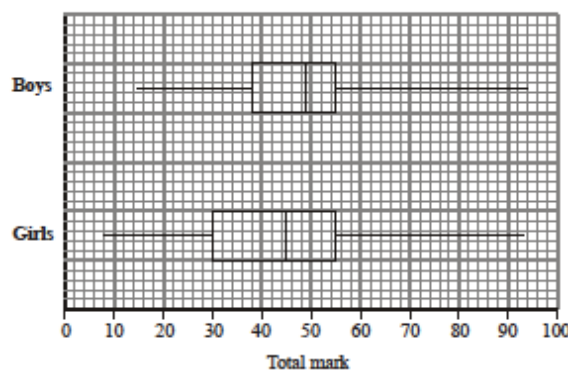
2.

There are 14 boys and 12 girls in a class.

Work out the total number of ways that 1 boy and 1 girl can be chosen from the class. (Total 2 marks)

3.

56 boys and 52 girls took an English test. The box plots show the distributions of their marks.



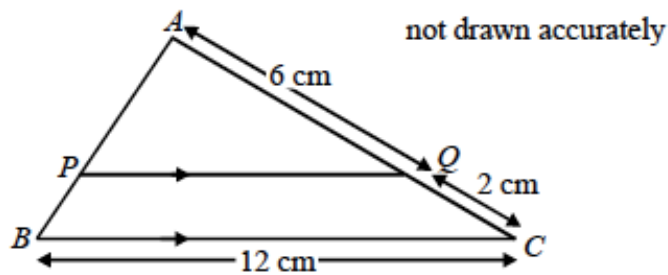
Give two differences between the boys' marks and the girls' marks.

(Total 2 marks)

4.

Triangles ABC and APQ are similar.
 PQ is parallel to BC .

$AQ = 6$ cm, $QC = 2$ cm and $BC = 12$ cm



Calculate the length of PQ .

(Total 3 marks)

5.

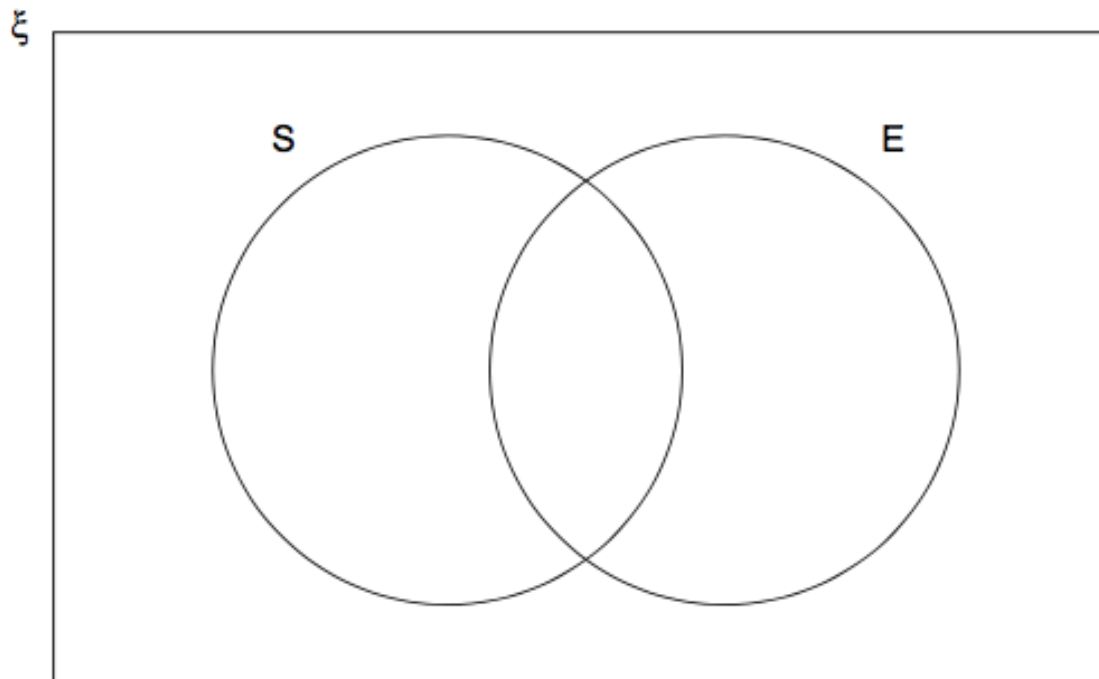
$\xi = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\}$

S = square numbers

E = even numbers

(a) Complete the Venn diagram.

[3 marks]



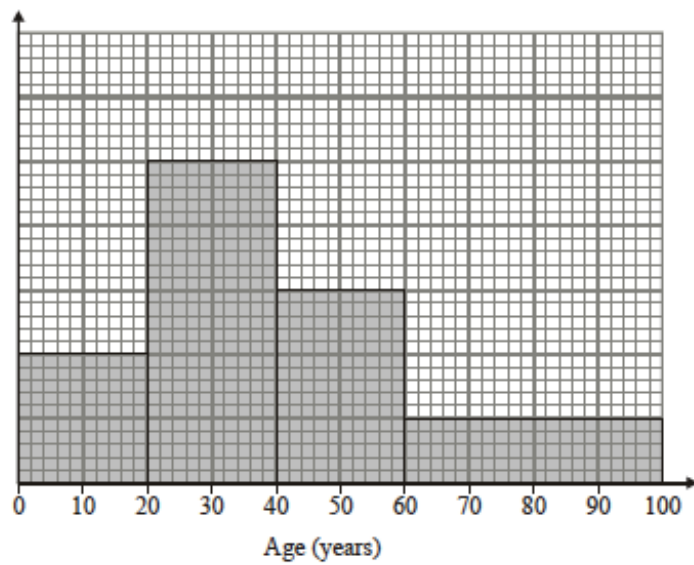
(b) One of the numbers is chosen at random.

Write down $P(S \cap E)$

[1 mark]

6.

The histogram shows the age distribution of a town.



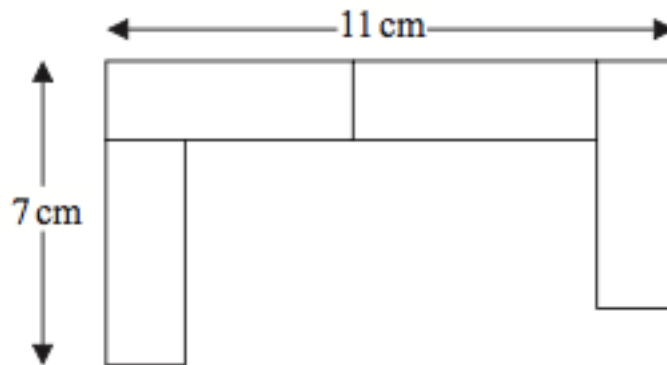
There are 160 people under 20 years old in this town.

Estimate the probability that a person chosen at random from this town is over 55 years old and under 75 years old?

(Total 4 marks)

7. **Non-calculator**

A pattern is made using identical rectangular tiles.



Find the total area of the pattern.

(Total 4 marks)

8.

There are only red counters, blue counters, green counters and yellow counters in a bag.

The table shows the probabilities of picking at random a red counter and picking at random a yellow counter.

Colour	red	blue	green	yellow
Probability	0.24			0.32

The probability of picking a blue counter is the same as the probability of picking a green counter.

Complete the table.

(Total 2 marks)

9.

Sue has ten one pound coins.

Four have a thistle design and six have a leek design.



Sue chooses a one pound coin at random.

If the first coin chosen has a thistle design she replaces it, and chooses again.

If the first coin has a leek design she does not replace it, but chooses again.

What is the probability that the second coin has a leek design?

(Total 4 marks)

10.

A fair spinner has six sections of equal size.

One section is blue, two sections are green and three sections are red.

The spinner is spun twice.

(a) Calculate the probability that it lands on the same colour both times.

(3)

(b) When the spinner lands on a blue section 7 points are scored.
When the spinner lands on a green section 5 points are scored.
When the spinner lands on a red section 3 points are scored.

Calculate the probability of scoring exactly ten points in two spins.

(4)

(Total 7 marks)