

Q1. The diagram shows a sketch of triangle ABC .

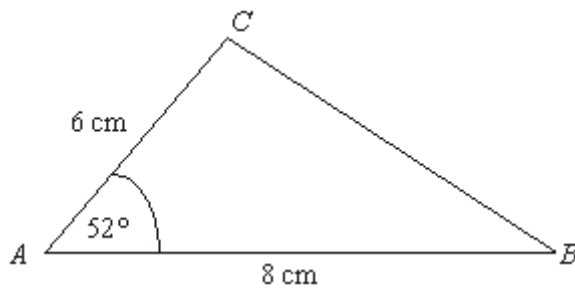


Diagram **NOT** accurately drawn

$AB = 8$ cm.

$AC = 6$ cm.

Angle $A = 52^\circ$.

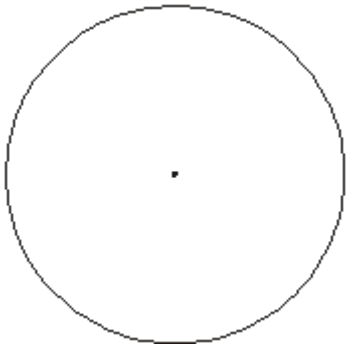
In the space below, make an accurate drawing of triangle ABC .

The line AB has been drawn for you.

A _____ B

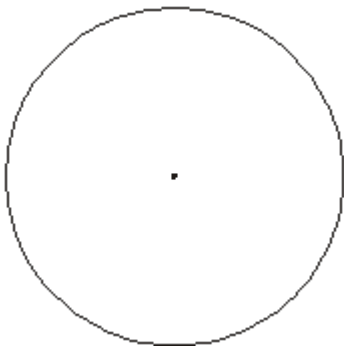
(Total 2 marks)

Q2. (a) In the circle below, draw a diameter.



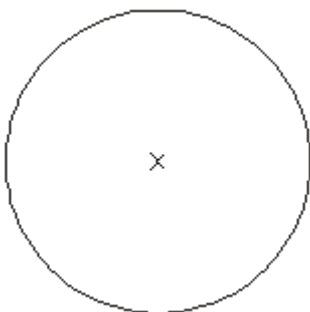
(1)

- (b) In the circle below, draw a sector.
Shade your sector.



(1)
(Total 2 marks)

- Q3.** In the circle, draw a diameter.



(Total 1 mark)

Q4. Tom wants to clean the upstairs windows of his house.

He decides to buy a ladder.



The ladder has to reach exactly 3.8 metres up the wall of the house.

To be safe, the ladder has to be at an angle of 72° to the ground.

What length of ladder should Tom buy?

(Total 4 marks)

- Q5.** (a) Measure the length of the line AB .
Give your answer in centimetres.



..... cm

(1)

- (b) Mark the midpoint of the line AB with a cross (\times).

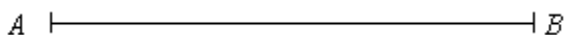
(1)

- (c) In the space below, draw accurately a circle of radius 4 cm.
Use the point C as the centre of your circle.



(1)
(Total 3 marks)

- Q6.** (a) Measure, in centimetres, the length of the line AB .



..... cm

(1)

(b) Mark the midpoint of the line AB with a cross (\times).

(1)

(Total 2 marks)

Q7. (a) The point O has been marked with a cross (\times).

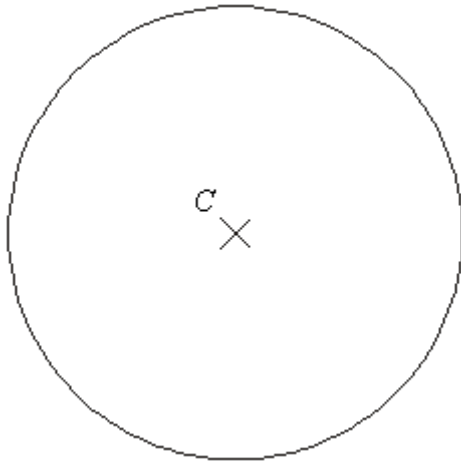
Draw a circle with radius 4 cm and centre O .



(1)

(b) Here is a circle centre C .

Draw a diameter in the circle.



(1)
(Total 2 marks)

Q8.

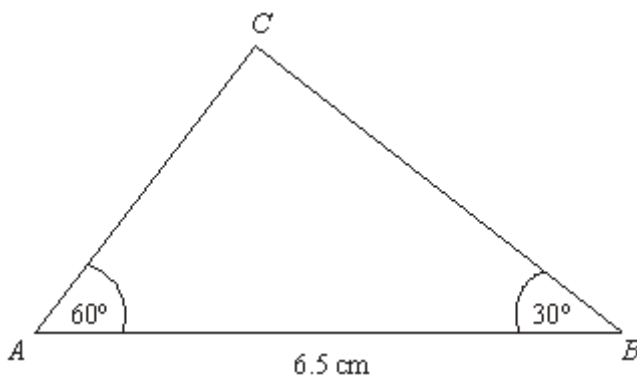


Diagram **NOT** accurately drawn

- (a) Make an accurate drawing of triangle ABC .
The side AB has already been drawn for you.

A ————— B

(2)

- (b) Measure the size of the angle at C in your triangle.

.....°

(1)

(Total 3 marks)

- Q9.** Here is a point P marked with a cross (\times).

$P \times$

- (a) Draw a line 7 cm long.
Start from the point P .

(1)

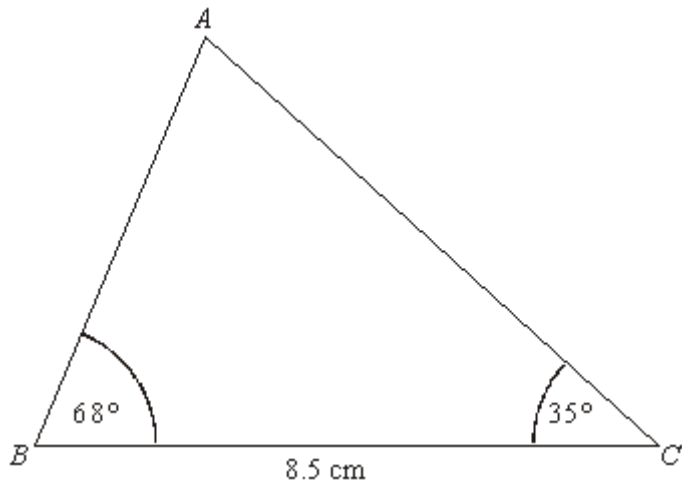
- (b) On your line, mark with a cross (\times) the point which is 3 cm from P .
Label this point Q .

(1)

(Total 2 marks)

- Q10.** Here is a sketch of triangle ABC .

Diagram **NOT**
accurately drawn



$$BC = 8.5 \text{ cm}$$

$$\text{Angle } B = 68^\circ$$

$$\text{Angle } C = 35^\circ$$

Draw an accurate diagram of triangle ABC in the space below.

(Total 3 marks)

M1.

Answer	Mark	Additional Guidance
Correct triangle	2	B2 for correct triangle in guidelines (B1 for angle of 52° ($\pm 2^\circ$) or side $AC = 6$ cm (± 2 mm))
Total for Question: 2 marks		

M2.

	Answer	Mark	Additional Guidance
(a)	diameter	1	B1 for a diameter drawn
(b)	Sector	1	B1 for sector drawn (ignore shading)
Total for Question: 2 marks			

M3.

Answer	Mark	Additional Guidance
Diameter drawn	1	B1 for a diameter drawn
Total for Question: 1 mark		

M4.

	Working	Answer	Mark	Additional Guidance
FE		4.0 m \pm 0.1 m	4	M2 for drawing a right angled triangle (M1 for a sketch of a right angled triangle) M1 for drawing an angle of $72^\circ \pm 2^\circ$ A1 for answer of 4.0 m \pm 0.1 m
Total for Question: 4 marks				

M5.

	Answer	Mark	Additional Guidance
(a)	7	1	B1 for $7 \pm 2\text{mm}$
(b)		1	B1 for correct position $\pm 2\text{mm}$
(c)		1	B1 for all parts within $\pm 2\text{mm}$, use overlay
Total for Question: 3 marks			

M6.

	Answer	Mark	Additional Guidance
(a)	6.4	1	B1 for 6.2 – 6.6 inclusive; accept 62-66 with mm stated.
(b)	Midpoint marked	1	B1 for midpoint marked at 3 – 3.4 inclusive
Total for Question: 2 marks			

M7.

	Answer	Mark	Additional Guidance
(a)	circle drawn	1	B1 for a circle drawn within guidelines (see overlay)
(b)	diameter drawn	1	B1 for line through <i>C</i> and touching circle at both ends
Total for Question: 2 marks			

M8.

	Answer	Mark	Additional Guidance
(a)	Diagram (<i>overlay</i>)	2	B2 within guidelines of the overlay (B1 for exactly one given angle correctly drawn within guidelines of overlay)
(b)	90	1	B1 for an angle in range 86 to 94 or ft 'angle' measured correctly within $\pm 2^\circ$

Total for Question: 3 marks

M9.

	Answer	Mark	Additional Guidance
(a)	Correct line	1	B1 For a single line of length in the range 6.8 cm to 7.2 cm drawn with or without using the given point <i>P</i>
(b)	Correct point	1	B1 for point <i>Q</i> identified on their line within the range 2.8 cm to 3.2 cm from <i>P</i>
Total for Question: 2 marks			

M10.

Working	Answer	Mark	Additional Guidance
8.5 cm line drawn angles at B and C drawn	Correct Construction of triangle	3	B1 8.5 cm line drawn tolerance ± 0.2 cm B1 angles at B and C drawn tolerance $\pm 2^\circ$ B1 fully correct within tolerance
Total for Question: 3 marks			

- E1.** Competency in drawing accurate diagrams is a weakness. Despite allowing some tolerance, few candidates gained full marks. Both the length of the line or the angle were frequently drawn inaccurately. Of particular concern is the number of candidates who redrew an exact copy of the diagram in the question.
- E2.** Another well-understood question with most candidates gaining both marks though many radii were seen for (a) and segments for part (b). Candidates were expected to draw diameters within 2mm of the circumference for part (a) and semicircles were awarded the mark in (b).
- E3.** It was disappointing to see that just over a half of the candidates were able to draw a diameter in the circle. As it was not the intention to assess accurate drawing in this question, freehand drawing was usually accepted as long as the intention was clear.
- Unfortunately, many candidates drew a radius or more than one radius and some drew a radius and a diameter. This could not be accepted unless the diameter was labelled. Some candidates attempted to draw a freehand circle inside the given circle given whilst other candidates did not attempt the question at all.
- E5.** This question was also well answered. Only 1% of candidates failed to score any marks. Nearly all candidates appeared to have access to a ruler and a pair of compasses and most used them with reasonable accuracy. Freehand attempts at drawing the circle were rarely seen. A small minority of candidates drew a circle with diameter 4cm rather than with a radius 4cm.

E6. Specification A

This was a well answered question. The only common errors were not placing the ruler correctly on A, measuring the distance between the letters A & B rather than the line AB, and placing the midpoint inaccurately “by eye” rather than by measuring.

Specification B

Nearly 80% of the candidates were able to measure the length of the line with a high degree of accuracy as well as mark the mid-point within acceptable tolerances. The most common error was to merge the two parts of the question and give the distance to the mid-point.

Others wrote down 3.2 in (a), not realising that the length of the whole line was required.

E7. In part (a) it was obvious that many candidates did not have a compass, and therefore wasted this mark. Those who did have a compass usually presented an accurate circle. In part (b) it was surprising the number of candidates who failed to draw a diameter. A common error was predictably the drawing of a radius, but many drew the diameter as a chord, perhaps through the letter C rather than the centre X, or left the question blank.

E8. Specification A

Accurate use of a protractor was seen to be poor with very many candidates unable to draw angles of 60 and 30 degrees.

A correct angle at A was often followed by candidates just joining B to the point given by the protractor, giving an incorrect value of 70° for C. In part (b), many gained a mark from either knowing that 90° was the required angle or by accurately measuring their angle at

C.

Specification B

Part (a) was not done well. The majority of candidates were able to score 1 mark for drawing an angle of 60° at A, but many had difficulty in drawing the 30° angle at B. Candidates should be advised that diagrams are given for guidance and, in general, are not accurately drawn. In part (b), it was evident that relatively few candidates measured the size of their angle at C. Many simply wrote down the answer completely independently of their diagram (or lack of diagram) in part (a). For a significant number of candidates a common incorrect answer was to draw an equilateral triangle in part (a) and then to write down 90° in part (b).

- E9.** All but a few candidates were able to demonstrate their ability to draw a 7 cm line accurately. However this was often not drawn from the given point. Candidates did not lose the mark for this provided their intended 7 cm line was unambiguous. Following their success in part (a), the vast majority were then able to place the point Q, 3 cm from P, again not always following the directions of the question and often merely placing a letter Q on their line.

Those whose measurements were incorrect were often 1 cm short, indicating they had started from 1 instead of 0 on their ruler. There was still some evidence of candidates not having a ruler.