1.   (a)   Measure the length of the line *AB*.

A _____ *B*

…………………………cm

(1)

(b)   Mark the mid point of the line *AB* with a cross (×).
Label this point *P*.

(1)

(c)   Draw a circle with centre *P* so that *AB* is the diameter of the circle.

(1)
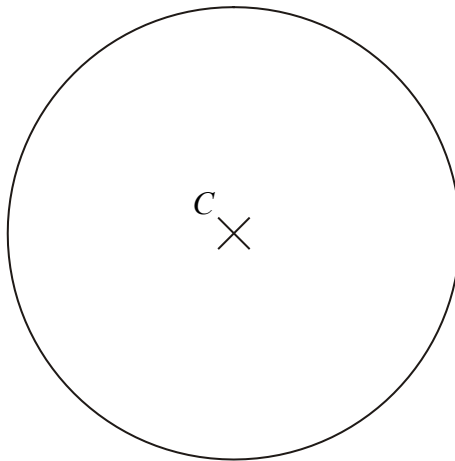**(Total 3 marks)**

2.   (a)   The point *O* has been marked with a cross (✖).

Draw a circle with radius 4 cm and centre *O*.

O
✕

(1)

(b)   Here is a circle centre *C*.

Draw a diameter in the circle.
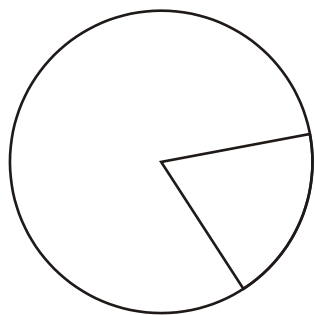
C
✕

(1)
(Total 2 marks)

3.   Draw accurately a circle of radius 4 cm.

(Total 1 mark)

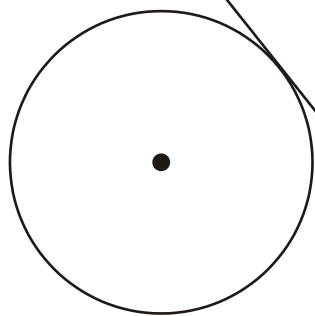**4.**   Here are some diagrams relating to a circle.

Draw an arrow from each of the diagrams to its mathematical name.
The arrow showing an arc is drawn for you.
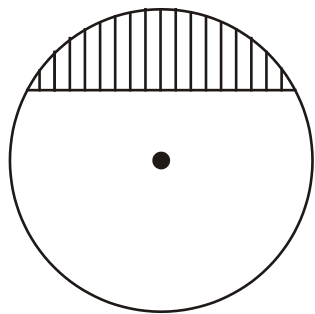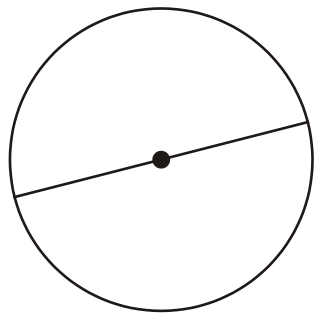
Arc

Circle and diameter

Circle and sector

Circle and tangent

Circle and segment

(Total 3 marks)

5. Draw accurately a circle of radius 4 cm.
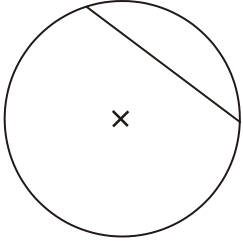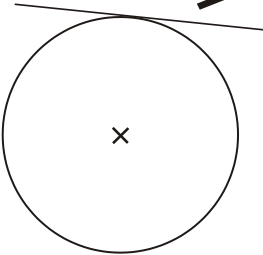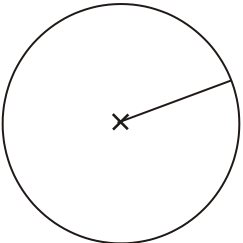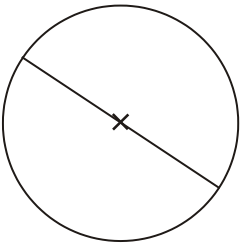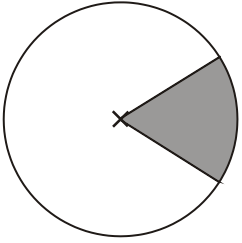
The centre of the circle has been marked with a ×

×

(Total 1 mark)

6.   Here are 5 diagrams and 5 labels.
        In each diagram the centre of the circle is marked with a cross (×).

        Match each diagram to its label.
        One has been done for you.

(Total 3 marks)

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

(1)

(b)   In the circle below, draw a sector.
         Shade your sector.
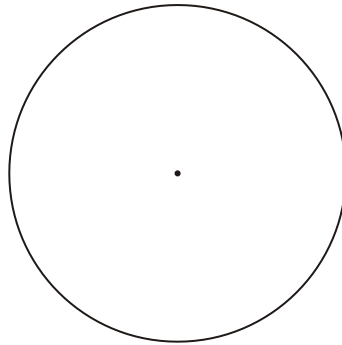
(1)
(Total 2 marks)

8.
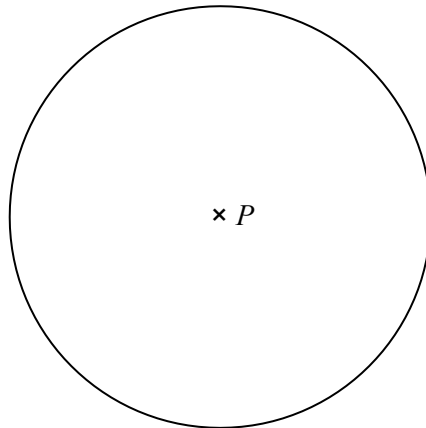
(a)   In the circle, centre *P*, draw a radius.

(1)
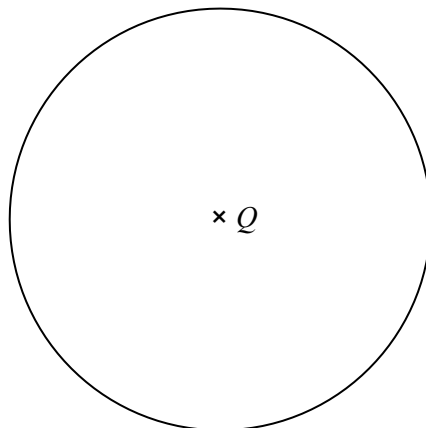
(b)   In the circle, centre *Q*, draw a chord.

(1)
(Total 2 marks)

9.   Here are some words which describe parts of a circle.

Radius	Diameter	Sector
Chord	Tangent	Segment

(a)   Write down the mathematical name of the straight line shown in this diagram.
Use one of the words from the box.

....
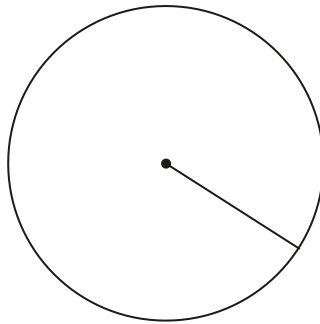
(1)

(b)   Write down the mathematical name of the straight line shown in the diagram.
Use one of the words from the box.

....
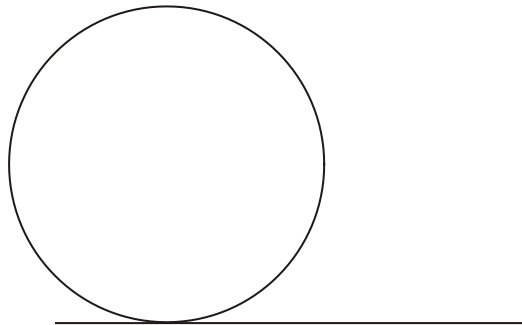
(1)
(Total 2 marks)

10. In the circle, draw a diameter.
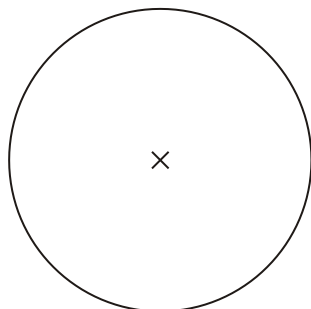
(Total 1 mark)

1. (a) 8 cm   1
            B1 ± 2mm

   (b) *B1 ± 2mm use overlay*   1

   (c) *B1 for all parts within ± 2mm, use overlay*   1
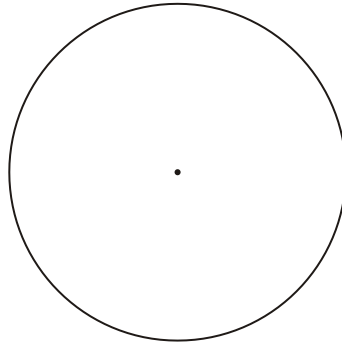   **[3]**

2. (a) circle drawn   1
            B1 for a circle drawn within guidelines (see overlay)

   (b) diameter drawn   1
            B1 for line through C *and touching circle at both ends*
                                                                                                          [2]

3. Circle   1
            B1 circle within overlay (radius 4cm ± 2mm)
                                                                                                          [1]

4. $1^{st} \rightarrow$ sector
           $2^{nd} \rightarrow$ target
           $3^{rd} \rightarrow$ segment
           $4^{th} \rightarrow$ diameter   3

B3 for all 4 correct
(B2 for 2 or 3 correct,
B1 for 1 correct)

[3]

5.   circle centre × radius 4cm   1
           B1 for circle within overlay

[1]

6.   **Diag   Label**
           1   3
           (2   1)
           3   2
           4   5
           5   4   3

B3 for all 5 diagrams with correct labels

(B2 for 3 or 4 diagrams with correct labels)
(B1 for 2 diagrams with correct labels)

NB: If more than one line is drawn from a diagram then this
counts as an incorrect answer

[3]

7. (a)   diameter   1
               B1 for a diameter drawn

        (b)   Sector   1
               B1 for sector drawn (ignore shading)

[2]

8. (a)   draw radius   1
               B1 (do not accept diameter) Ignore extras if correct

        (b)   draw chord   1
               B1 (accept diameter) Ignore extras if correct

[2]

9. (a) Radius   1
B1 ignore spelling

(b) Tangent   1
B1 ignore spelling

[2]

10. Diameter drawn   1
B1 for a diameter drawn

[1]

1. Parts (a) and (b) of this question were well answered with about 90% correct responses to both parts. However in part (c) only 31% of candidates were able to draw the circle correctly. Many candidates did not have a pair of compasses and some of those that did have a pair of compasses only drew a semicircle. There were many attempts at freehand circles and a few of these gained marks if they were entirely within the 2mm tolerance allowed.

2. 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.

3. The success of this question was effected by lack of equipment, whilst other candidates confused diameter and radius. A minority of candidates drew shapes other than circles.

4. The correct identification of diameter and tangent was commonplace however many candidates could not accurately distinguish between a segment and a sector, thus losing one mark.

5. The construction of the circle was successfully executed in just over half the cases where generally the candidate had access to a ruler and a pair of compasses. This led to a fair degree of accuracy within prescribed limits. However it was clear that many did not have access to a pair of compasses by the number of freehand circles.

6.   It was evident that many candidates were not familiar with the terminology associated with the circle. Many confused the radius with the diameter. Quite a few candidates took no notice of the given line and proceeded to draw another line from the 2nd diagram, often leaving out a line from the first diagram. Only 31% scored all 3 marks with 29% scoring 2 marks for getting 3 or 4 correct of the 5 diagrams correctly associated with their label whilst 21% scored 1 mark for getting 2 of the 5 diagrams correctly labelled.

7.   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).

8.   This question was well understood with 53% of candidates obtaining the correct answer for part (a) and 39% of candidates for part (b). Diameters were a key element in this question, in part (a) diameters were not allowed even though they might be considered to be two radii; though they were accepted in part (b) since a diameter does join two points on a circumference.

9.   Candidates struggled with this question that is often tested in this paper and frequently made mistakes with the names of parts of a circle. Only 30% of candidates could write both parts correctly and a further 40% could write one part correctly, usually the tangent.

10.   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.