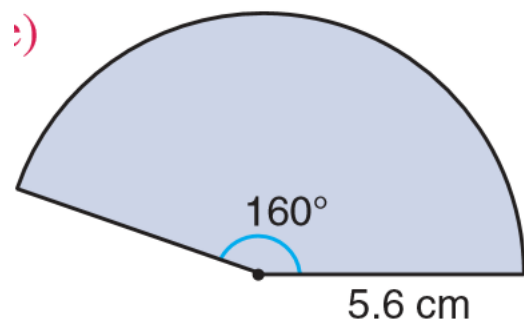
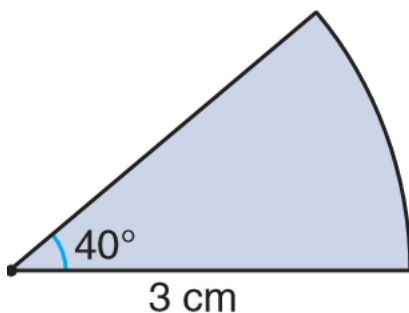


Homework - Due Friday 9th Feb

Complete in your jotter.

- 1) Calculate the volume of a sphere with a radius of 9cm.
- 2) Calculate the volume of a cylinder with a height of 19.3cm and a diameter of 10cm.
- 3) Factorise the following into two brackets.
  - a)  $x^2 + 6x + 8$
  - b)  $x^2 - 3x - 28$
  - c)  $x^2 - 15x + 50$
- 4) Factorise the following as a difference of two squares.
  - a)  $x^2 - 9 = (x + \quad)(x - \quad)$
  - b)  $4x^2 - 36$
  - c)  $25x^2 - 64$
- 5) Factorise the following using completing the square.
  - a)  $x^2 + 8x + 19$
  - b)  $x^2 + 10x - 13$
  - c)  $y^2 - 12y - 15$
- 6) Calculate the arc length and sector area of the following. Leave your answer to 2 decimal places.
  - a)      b)



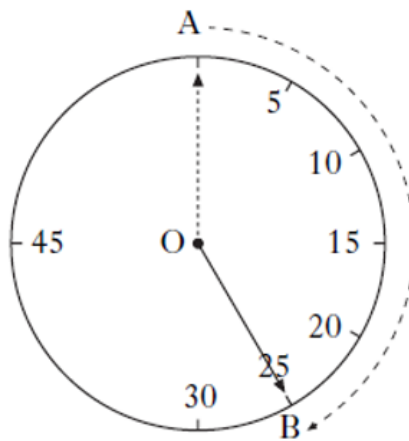
Turn over for question 7.

7) Exam Style Question

Contestants in a quiz have 25 seconds to answer a question.

This time is indicated on the clock.

The tip of the clock hand moves through the arc AB as shown.



- (a) Calculate the size of angle AOB.
- (b) The length of arc AB is 120 centimetres.  
Calculate the length of the clock hand.