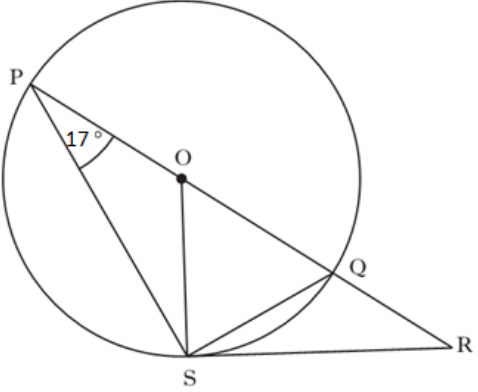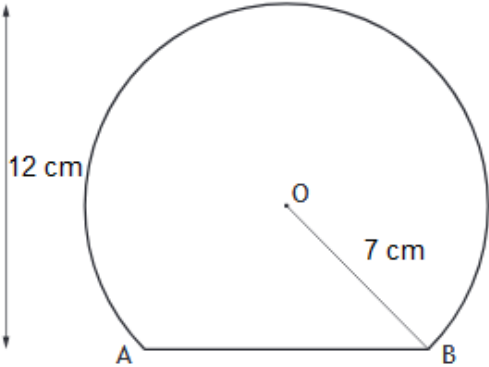| B	Nat 5 September Revision	38
1	The mid-day temperature for 10 days in the month of July was taken in Edinburgh. The temperatures in °C are shown below. 22 18 17 24 16 20 25 15 17 19 (a) Calculate the median and semi-interquartile range for these temperatures. During August the temperatures were also recorded for 10 days. The median temperature was 18°C and the semi-interquartile range was 3. (b) Make two valid statements comparing the temperatures in July and August.	**3** **2**
2	Multiply out the brackets and collect like terms $(3x + 5)(4x - 3) + 5x$	**3**
3	The population of Dundee is increasing at a steady rate of 1.7% per year. At present the population is 148 300. What is the expected population in five years time? Give your answer rounded to the nearest hundred.	**3**
4	The scattergraph shows the relationship between the age of a lamb and its weight. Point D is $(2, 13.5)$, Point E is $(7, 33.5)$ (a) Find the equation of the line of best fit. Give your answer in terms of W and A in the simplest form. (b) Use this equation to estimate the weight of a lamb which is 5 weeks.	 **3** **1**
5	Solve the inequality $9 - 2(x - 1) > 5$	**3**
6	Change the subject of the formula $p = \dfrac{m+h^3}{2}$ to h	**3**

7	In this diagram:	
	O is the centre of the circle	
	SR is a tangent to the circle and PR is a straight line.	
	Angle OPS is 17°	
	Calculate the size of angle QRS.	
		3

8	Emily and Erin visit a ski resort.	
	Emily buys 3 full passes and 4 restricted passes. The total cost of her passes is £185.	
	(d) Write down an equation to illustrate this information.	**1**
	Erin buys 2 full passes and 3 restricted passes. The total cost of her passes is £130	
	(e) Write down an equation to illustrate this information.	**1**
	(f) Calculate the cost of one restricted pass and one full pass	**4**

9	Express $\dfrac{1}{x} - \dfrac{7}{x^2}$, $x \neq 0$, as a single fraction in the simplest form	**2**

10	A perfume bottle has a label in the shape of part of a circle.	

The centre of the circle is O.

The circle has radius of 7 cm

The height of the label is 12 cm.

Calculate the width of chord AB.

		4

11	A straight line has equation $4x + 3y = 12$. Find the gradient of this line.	**2**