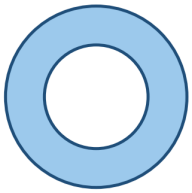
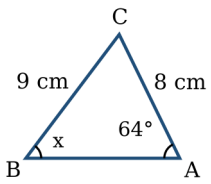
Day 90	A Tier 10-a-day
1 The diagram shows the cross-section of a metal pipe. The outer radius is 7 cm and the inner radius is 4 cm. The pipe is 50 cm long. Work out the volume of metal used. Give your answer to 3 significant figures. (Calculator) 	
2 Here are the ingredients for 12 cupcakes. Sugar: 180 g Butter: 180 g Flour: 240 g (a) Work out how much sugar is needed for 36 cupcakes. (b) Hannah has 575 g of butter. What is the greatest number of cupcakes she can make?	
3 Ryan buys a watch for £200 and sells it for £230. Work out Ryan's percentage profit.	
4 (a) Factorise $x^2 - 64$ (b) Use the same idea to work out $7^2 - 3^2$ without a calculator.	
5 A rectangle has length $(3x + 3)$ cm and width $(x - 2)$ cm. The perimeter of the rectangle is 42 cm. (a) Work out the value of x. (b) Work out the area of the rectangle.	

Day 90	A Tier 10-a-day
6 Prove that the sum of two consecutive multiples of 8 is always an odd multiple of 8.	
7 Work out the size of angle x. (Calculator) Give your answer to 1 decimal place. The diagram is not drawn accurately.  	
8 Rationalise the denominator of $\frac{21}{3+\sqrt{2}}$ Give your answer in the form $a + b\sqrt{c}$ where a and b are integers.	
9 £1 = €1.4. (a) Change £320 to euros. (b) Change €336 to pounds.	
10 Leah invests £8,500 in a savings account. (Calculator) Compound interest is paid at a fixed rate each year. After 2 years the investment is worth £9,017.65. Work out the annual rate of interest.	