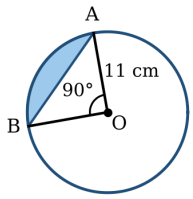
Day 73	A Tier 10-a-day
1 (a) Factorise $36x^2 - 1$ (b) Use the same idea to work out $42^2 - 8^2$ without a calculator.	
2 MN is a straight line of length 7 cm. A point T moves so that it is always less than 7 cm from the point M. Describe the region where T can be.	
3 Solve $-2x - 9 \leq 3x - 9$	
4 Work out $(2.5 \times 10^6) - (2.4 \times 10^4)$ Give your answer in standard form.	
5 Jug A contains 8 litres of a mixture of red paint and white paint in the ratio 7 : 1. Jug B contains 25 litres of a mixture of red paint and white paint in the ratio 1 : 4. The contents of both jugs are mixed together. Work out the ratio of red paint to white paint in the mixture. Give your answer in its simplest form.	

Day 73	A Tier 10-a-day
6 Maya is x years old. Her mum is 4 times as old as Maya, plus 2 years. The sum of their ages is 32 years. Work out how old her mum is.	
7 A boat leaves a port and travels 10 km on a bearing of 140°. (Calculator) It then travels 24 km on a bearing of 230°. (a) Work out how far it is now from the port. (b) Work out the bearing of its final position from the port. Give your answer to the nearest degree.	
8 Kai and Tara each invest £1000 for 3 years. (Calculator) Kai's account pays 6% simple interest per year. Tara's account pays 6% compound interest per year. Work out how much more interest Tara earns than Kai.	
9 The diagram shows a circle with centre O and radius 11 cm. Angle AOB = 90°. (Calculator) Work out the area of the shaded segment. Give your answer to 3 significant figures. 	
10 Nadia invests £6,000 in a savings account. (Calculator) Compound interest is paid at a fixed rate each year. After 2 years the investment is worth £7,260. Work out the annual rate of interest.	