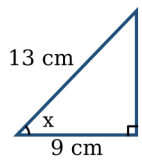
Day 19	A Tier 10-a-day
1 A radio mast is at point A. Its signal reaches up to 9 km. A radio mast at B reaches up to 11 km. Describe the region where both signals can be received.	
2 Express 2420 as a product of prime factors. Give your answer in index form.	
3 A closed gift box is a cuboid measuring 6 cm by 6 cm by 2 cm. Work out the total surface area.	
4 Expand and simplify $3(x - 1)(x - 1) - (x - 1)(x + 1)$	
5 Work out the size of angle x. (Calculator) Give your answer to 1 decimal place. The diagram is not drawn accurately. 	

Day 19	A Tier 10-a-day
6 Grace and Femi each invest £2500 for 3 years. (Calculator) Grace's account pays 3% simple interest per year. Femi's account pays 3% compound interest per year. Work out how much more interest Femi earns than Grace.	
7 Rationalise the denominator of $\frac{14}{2\sqrt{7}}$ Give your answer in its simplest form.	
8 The curve C has equation $y = -x^2 + 6x - 8$ (a) Find the coordinates of the points where C crosses the x-axis. (b) Find the coordinates of the turning point of C.	
9 A bag contains 3 red counters and 4 blue counters. Three counters are taken at random without replacement. Work out the probability that at least one of the three counters is blue.	
10 Solve the simultaneous equations $x^2 + y^2 = 25$ $y = 2x - 10$	