Day 97	A Tier 10-a-day
1 A lorry travels at 18 km/h. Work out this speed in metres per minute.	
2 Factorise $x^2 - 4x - 45$	
3 A rectangular table top is 120 cm by 100 cm. Work out its area in m^2.	
4 Make m the subject of $n = 9m + 2$	
5 Jack spends $\frac{1}{6}$ of the money on a phone case and $\frac{1}{5}$ of the money that is left on headphones. Jack has £44 left. How much money did Jack have to begin with?	

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6 The size of each angle of a quadrilateral is shown as an expression: (2x + 60)°, (2x + 35)°, (x + 35)°, (2x + 41)° Work out the value of x.	
7 Jug A contains 27 litres of a mixture of orange juice and lemonade in the ratio 7 : 2. Jug B contains 33 litres of a mixture of orange juice and lemonade in the ratio 4 : 7. The contents of both jugs are mixed together. Work out the ratio of orange juice to lemonade in the mixture. Give your answer in its simplest form.	
8 A solid is made from a cylinder and a hemisphere. The cylinder has radius 6 cm and height 9 cm. The hemisphere has the same radius as the cylinder and sits on top of it. Work out the total volume. Give your answer in terms of π.	
9 The line L has equation $y = -\frac{3}{4}x + 1$ Find the equation of the line that is parallel to L and passes through the point (4, 3).	
10 A cyclist travels 550 metres in 17.2 seconds. The distance is correct to the nearest 10 metres and the time to the nearest 0.1 second. (a) Work out the upper bound and the lower bound of the speed in m/s. (b) Write the speed to a suitable degree of accuracy. Give a reason for your answer.	