Day 298	A Tier 10-a-day
1 y is inversely proportional to the square of x. When x = 3, y = 8. (a) Find a formula for y in terms of x. (b) Work out the value of y when x = 2.	
2 A cyclist rides 33 km at 12 km/h. Work out the time taken. Give your answer in hours and minutes.	
3 Make r the subject of $k = \frac{r + 1}{2}$	
4 Ryan buys a bike for £200 and sells it making a profit of 8%. Work out the selling price.	
5 A ladder reaches 9 m up a vertical wall. The ladder is 41 m long. Work out how far the foot of the ladder is from the wall.	

Day 298	A Tier 10-a-day
6 Jack invests £3,000 in a savings account. (Calculator) The account pays compound interest at 2% per year. Work out the value of the investment after 5 years.	
7 Jug A contains 14 litres of a mixture of red paint and white paint in the ratio 3 : 4. Jug B contains 36 litres of a mixture of red paint and white paint in the ratio 5 : 1. 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.	
8 A sphere has radius 8 cm. Work out the surface area of the sphere. Give your answer in terms of π.	
9 Make x the subject of $y = \frac{3x - 3}{-x + 5}$	
10 Rationalise the denominator of $\frac{1}{2 - \sqrt{3}}$ Give your answer in the form $a + b\sqrt{c}$ where a and b are integers.	