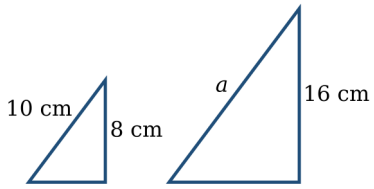
Day 352	B Tier 10-a-day
1 Triangle PQR has sides 4 cm, 8 cm and 12 cm. Triangle DEF has sides 12 cm, 4 cm and 8 cm. Are the two triangles congruent? Give a reason for your answer.	
2 Write the ratio 80 : 70 in its simplest form.	
3 The two triangles are similar. (a) Write down the scale factor of the enlargement from the smaller triangle to the larger triangle. (b) Work out the value of a. The diagram is not drawn accurately. 	
4 £1 = 1.2 euros A holiday costs €180. Work out the cost in pounds.	
5 A is the point (−4, 2) and B is the point (−8, −6). Find the coordinates of the midpoint of AB.	

Day 352	B Tier 10-a-day
6 Write these numbers in order of size. Start with the smallest. 8.5×10^6, 510, 4.3×10^{-5}, 0.0046	
7 Matchsticks are used to make a row of hexagons. 1 hexagon needs 6 matchsticks, 2 hexagons need 11 and 3 hexagons need 16. (a) Find an expression, in terms of n, for the number of matchsticks needed for n hexagons. (b) Dan uses 121 matchsticks to make a row. How many hexagons are in his row?	
8 34 households were asked. 20 of them have a cat and 18 of them have a dog. 10 of them did both. (a) How many did neither? (b) One is chosen at random. Find the probability that they have a cat but do not have a dog.	
9 In a sale, the price of a sofa is reduced by 40%. (Calculator) Two weeks later it is reduced by a further 10% of the new price. The final price is £216. Work out the original price of the sofa.	
10 A rectangle has length (x + 3) cm and width (x − 1) cm. The area of the rectangle is 12 cm^2. (a) Show that $x^2 + 2x - 15 = 0$ (b) Hence work out the length of the rectangle.	