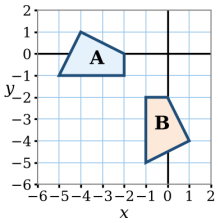
Day 338	A Tier 10-a-day
1 A culture starts with 2500 bacteria. (Calculator) The number of bacteria increases by 25% every hour. Work out the number of bacteria after 2 hours. Give your answer to the nearest whole number.	
2 Factorise $x^2 + x - 30$	
3 A shop sells pasta in 2 different sizes. Small bag: 250 g for £2.45 Large bag: 1000 g for £7.60 Which bag is the best value for money? You must show your working.	
4 A tin of soup is a cylinder with radius 11 cm and height 16 cm. Work out the volume. Give your answer in terms of π.	
5 Chloe runs around a track in 50 seconds. Jack runs around the same track in 80 seconds. They start together at the start line and keep running. How many laps will each have run when they are next together at the start line?	

Day 338 **A Tier 10-a-day**

6 Describe fully the single transformation that maps shape A onto shape B.



7 (a) Show that the equation $x^3 + 6x - 29 = 0$ can be rearranged to give $x = \sqrt[3]{29 - 6x}$
(b) Show that the equation has a solution between x = 2 and x = 3

8 Mo invests £2,000 in a bank account. (Calculator)
The account pays compound interest at 6% per year.
Work out the value of the investment after 5 years.

9 (a) Work out 0.9 × 0.2
(b) Work out 0.18 ÷ 0.02

10 Ship A sails 16 km from a port on a bearing of 270°.
Ship B sails 19 km from the same port on a bearing of 130°. (Calculator)
Work out the distance between the two ships.
Give your answer to 3 significant figures.