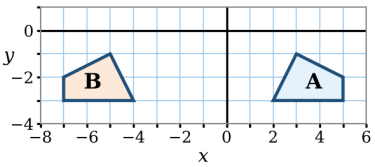
Day 29	A Tier 10-a-day
1 Write $2^6 \times (2^4)^3$ as a single power of 2.	
2 A closed box is a cuboid measuring 9 cm by 4 cm by 3 cm. Work out the total surface area.	
3 Solve $3x^2 - 13x + 12 = 0$	
4 A café offers 3 starters, 5 main courses and 5 desserts. A meal is one starter, one main course and one dessert. (a) How many different meals are possible? (b) Hana picks her meal at random. Write down the probability that she picks her favourite meal.	
5 A colony has 17,500 and grows by 6% per day. (Calculator) Work out the number of bacteria after 3 days. Give your answer to the nearest whole number.	

Day 29 **A Tier 10-a-day**

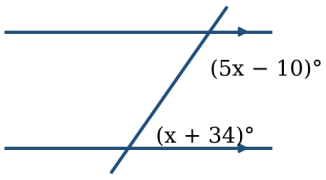
6 Describe fully the single transformation that maps shape A onto shape B.



7 The mean mark of 20 boys in a test is 52.
The mean mark of 20 girls in the same test is 45.
Work out the mean mark of all 40 people.

8 The value of a house increases by 10% each year. (Calculator)
After 3 years it is worth £25,289.
Work out its value at the start.

9 The diagram shows two parallel lines crossed by a straight line.
(a) Work out the value of x.
(b) Work out the size of the angle marked $(5x - 10)°$.
The diagram is not drawn accurately.



10 Solve $\frac{1}{(x-1)} + \frac{3}{(x+3)} = 1$