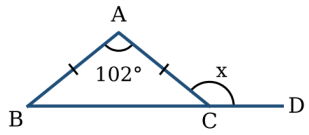
Day 128 **A Tier 10-a-day**

1 Solve $-2(x + 6) = 6(x + 3) - 6$

2 ABC is an isosceles triangle with AB = AC.
BCD is a straight line.
Angle BAC = 102°.
Work out the size of angle x.
The diagram is not drawn accurately.

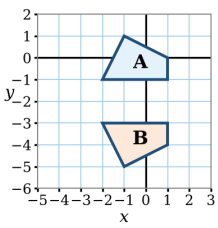


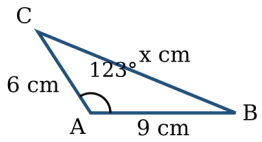
3 Work out $3\frac{1}{2} + 4\frac{3}{5}$

Give your answer as a mixed number in its simplest form.

4 Factorise fully $5x^2 - 25x + 30$

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



Day 128	A Tier 10-a-day
6 A club has 240 members in junior, 280 in intermediate and 240 in senior. A stratified sample of 38 members is to be taken. Work out how many members should be chosen from intermediate.	
7 (a) Show that $0.\dot{6}\dot{7} = \frac{67}{99}$ (b) Hence write $2.\dot{6}\dot{7}$ as a mixed number in its simplest form.	
8 Solve $2x^2 - 9x - 6 = 0$ Give your solutions correct to 2 decimal places. (Calculator)	
9 Work out the value of x. (Calculator) Give your answer to 3 significant figures. The diagram is not drawn accurately. 	
10 y is directly proportional to the cube of x. When x = 5, y = 875. (a) Find a formula for y in terms of x. (b) Work out the positive value of x when y = 448.	