Day 192 **S Tier 10-a-day**

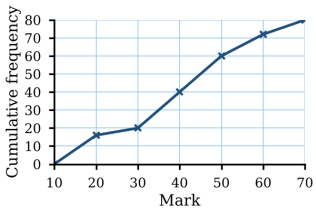
1 The table shows the number of members in each of four groups.
(a) A stratified sample of 34 is taken. Work out how many come from Group C.
(b) A different stratified sample has 30 from Group A. Work out the size of this sample.

	Group A	Group B	Group C	Group D
Number	200	200	200	80

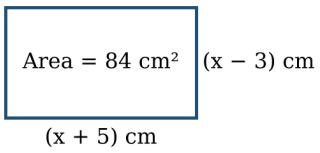
2 A rectangle has length (3x + 3) cm and width (x + 1) cm.
The area of the rectangle is 192 cm^2.
(a) Show that $3x^2 + 6x - 189 = 0$
(b) Work out the perimeter of the rectangle.

3 The mass of a parcel is 1400 kg, correct to the nearest 100.
Write down the error interval for the mass of a parcel, using m.

4 The cumulative frequency graph gives information about the marks of 80 students in a test.
(a) Find an estimate for the median and the interquartile range.
(b) Estimate how many of the 80 had a mark greater than 15.



5 The value of a car is decreased by 50%.
By what percentage must the new value be increased to get back to the original value?

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6 The graph of y = f(x) has a minimum point at (−4, 4). Write down the coordinates of the turning point of the graph of (a) y = f(x + 4) (b) y = f(x − 2) + 3	
7 Solve $x^2 - 10x - 6 = 0$ Give your answers in the form $a \pm \sqrt{b}$	
8 In a fruit box, the ratio of the number of apples to the number of pears is 5 : 3. Then 10 more apples are added and 2 pears are removed. The ratio is now 11 : 5. How many pears were there at the start?	
9 The diagram shows a rectangle of length (x + 5) cm, width (x − 3) cm and area 84 cm^2. (a) Show that $x^2 + 2x - 99 = 0$. (b) Work out the perimeter of the rectangle. 	
10 A factory makes 1.3×10^4 bottles each day. It runs for 2.5×10^2 days. How many bottles does it make? Give your answer in standard form.	