Day 11 **A Tier 10-a-day**

1 Grace and Maya share some football cards in the ratio 9 : 8.
Grace gets 45 football cards.
How many football cards does Maya get?

2 A circular table top has radius 13 cm.
Work out, in terms of π,
(a) the circumference,
(b) the area.

3 Solve $-4x - 4 < -2x - 12$

4 The table shows information about 72 people.
One person is chosen at random.
(a) Find the probability that the person is a child and chose coffee.
(b) The person chose tea. Find the probability that they are an adult.

	Tea	Coffee	Total
Adults	25	24	49
Children	6	17	23
Total	31	41	72

5 Solve $2^{3x+1} = 16$

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6 Simplify fully $\frac{x^2 - 36}{x^2 - 6x}$	
7 Write $0.5\dot{8}$ as a fraction in its simplest form.	
8 4 identical circles of radius 5 cm fit exactly inside a rectangle. The circles touch each other and the sides of the rectangle. (Calculator) Work out the area of the shaded region. Give your answer to 3 significant figures. 	
9 Solve $\frac{3}{(x + 1)} + \frac{2}{(x - 1)} = 1$	
10 A colony has 3,500 and grows by 15% per day. (Calculator) Work out the number of bacteria after 2 days. Give your answer to the nearest whole number.	