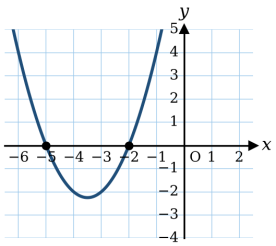
Day 224 **A Tier 10-a-day**

1 M is the midpoint of AB.
A is the point $(-3, -2)$ and M is the point $(-4, -5)$.
Work out the coordinates of B.

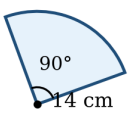
2 Here are the ingredients for 10 muffins.
Butter: 250 g
Water: 250 ml
Sugar: 300 g
(a) Work out how much butter is needed for 18 muffins.
(b) Hannah has 771 ml of water. What is the greatest number of muffins she can make?

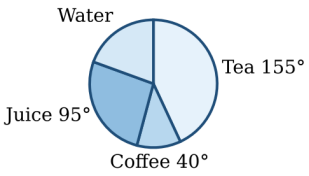
3 The diagram shows the graph of $y = x^2 + bx + c$.
Find the value of b and the value of c.



4 Tom spends $\frac{1}{5}$ of the money on a book and $\frac{1}{3}$ of the money that is left on a game.
Tom has £64 left.
How much money did Tom have to begin with?

5 The diagram shows a sector of a circle of radius 14 cm.
Work out the length of the arc of the sector.
Give your answer in terms of π.
The diagram is not drawn accurately.



Day 224	A Tier 10-a-day
6 Expand and simplify $3(x - 2)(x + 6) - (x + 5)(x - 5)$	
7 Hugo and Tara each invest £2000 for 3 years. (Calculator) Hugo's account pays 3% simple interest per year. Tara's account pays 3% compound interest per year. Work out how much more interest Tara earns than Hugo.	
8 Solve $2^{x+4} = 8^x$	
9 The pie chart shows how some students chose a drink. 19 students chose juice. (a) Work out the angle for water. (b) How many students chose water? 	
10 The graph of $y = f(x)$ has a minimum point at (5, 5). Write down the coordinates of the turning point of the graph of (a) $y = f(x) - 4$ (b) $y = -f(x)$	