Day 201 **A Tier 10-a-day**

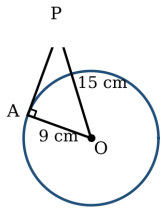
1 Here are the ingredients for 4 biscuits.
Water: 300 ml
Butter: 40 g
Milk: 120 ml
(a) Work out how much water is needed for 9 biscuits.
(b) Hannah has 285 g of butter. What is the greatest number of biscuits she can make?

2 (a) Write 0.0089 in standard form.
(b) Write 1.25×10^5 as an ordinary number.

3 The table shows the probabilities of the outcomes of a biased four-sided dice.
(a) Work out the value of x.
(b) The four-sided dice is rolled 200 times.
Estimate the number of times it lands on 2.

Score	1	2	3	4
Probability	0.3	x	x	0.2

4 PA is a tangent to a circle with centre O. A is on the circle.
The radius is 9 cm and OP = 15 cm.
Work out the length of PA.
The diagram is not drawn accurately.



5 f(x) = 2x + 1
$g(x) = x^2 - 5$
Solve gf(x) = 20

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6 Work out $(4\frac{1}{3} - 1\frac{5}{6}) \times 1\frac{1}{4}$

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

7 Simplify fully

$$\frac{2x^2 + 5x - 3}{3x^2 + 13x + 12}$$

8 Priya invests £1,500 in a savings account. (Calculator)
Compound interest is paid at a fixed rate each year.
After 2 years the investment is worth £2,160.
Work out the annual rate of interest.

9 Solve $\frac{4}{(x + 1)} + \frac{1}{(x - 5)} = 1$

10 Work out the size of angle x. (Calculator)
Give your answer to 1 decimal place.
The diagram is not drawn accurately.

