Day 195 **A Tier 10-a-day**

1 (a) A coach leaves Leeds at 0905. The journey takes 3 hours 17 minutes. Work out the time it ends.
(b) Change 2.7 hours into hours and minutes.

2 Here are the results for 27 students.
(a) Find the median.
(b) Work out the range.

Shoe size	5	6	7	8	9
Frequency	6	2	7	4	8

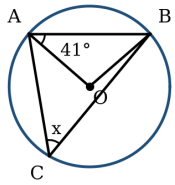
3 The point P(8, 15) lies on a circle with centre O(0, 0).
(a) Work out the equation of the circle, in the form $x^2 + y^2 = r^2$.
(b) Find the equation of the tangent to the circle at P.

4 The mean of the five numbers 22, x, 18, 10, 13 is 14.
Work out the value of x.

5 No tax is paid on the first £12,000 of income.
Tax of 25% is paid on the next £30,000. Tax of 40% is paid on all income above £42,000.
(Calculator)
Chloe earns £68,000 a year.
Work out the income tax paid.

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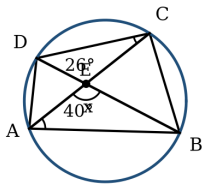
6 A, B and C are points on a circle with centre O.
Angle OAB = 41°.
(a) Work out angle AOB.
(b) Work out the size of angle x.
Give reasons for your answers.



7 Kiran is paid £11.20 per hour for a basic week of 35 hours. (Calculator)
Overtime is paid at double time.
Last week Kiran worked 7 hours of overtime.
Work out Kiran's total pay for the week.

8 Make x the subject of $y = \frac{5x - 1}{x + 3}$

9 A, B, C and D are points on a circle. AC and BD meet at E.
Angle BAC = 40° and angle ACD = 26°.
Work out the size of angle x (angle AEB).
Give reasons for your working.



10 Solve $\frac{6}{(x + 5)} + \frac{5}{(x - 3)} = 1$