Day 350	A Level Maths: C Tier 10-a-day
1 $X \sim N(70, 6^2)$. Find $P(X < 64)$, giving your answer to 3 s.f.	
2 θ is acute and $\sin\theta = \frac{20}{29}$. Find the exact values of $\cos\theta$ and $\tan\theta$.	
3 A circle has equation $x^2 + y^2 + 12y + 18 = 0$. Find the centre and the radius of the circle.	
4 A particle P moves in a straight line. Its displacement from O at time t seconds is s metres, where $s = 3t^3 + 4t^2 - t + 2$. Find its velocity when $t = 1$.	
5 Solve $\sin(x - 60°) = \frac{\sqrt{2}}{2}$ for $0° \leq x \leq 360°$.	

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6 The curve C has equation $y = x^3 - 4x + 1$. C is reflected in the x-axis. Find the equation of the image, in the form y = ...	
7 A car of mass 800 kg tows a caravan of mass 500 kg on a level road with acceleration 0.25 m s^{-2}. Resistances: 300 N on the car, 100 N on the caravan. Find the driving force and the tow bar tension.	
8 Express $\frac{8x + 4}{(x + 2)(x - 4)}$ in partial fractions.	
9 X ~ B(60, 0.2). Use a normal approximation to find $P(X \leq 14)$, to 3 s.f.	
10 Use the substitution u = sin x to find $\int \cos x \sin^2 x \, dx$.	