Day 227	A Level Maths: C Tier 10-a-day
1 The table summarises the number of goals scored in a game by 25 people. Goals, x: 1, 2, 3, 4, 5 Frequency, f: 5, 3, 11, 3, 3 Find the mean.	
2 Simplify $\sqrt{112} + \sqrt{7}$, giving your answer in the form $p\sqrt{7}$.	
3 Solve $\tan 3x = \frac{\sqrt{3}}{3}$ for $0° \leq x \leq 120°$.	
4 A rope pulls a box with a force of 12 N at an angle of 45° above the horizontal. Find the horizontal and vertical components of the force, to 3 s.f.	
5 $X \sim N(65, 3^2)$ and $P(X < 60.5) = 0.04$. Find $P(X > 69.5)$.	

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6 Use the quotient rule to find the derivative of $y = \frac{x^2}{x + 3}$.	
7 Find the set of values of x satisfying both $3x + 5 < 5$ and $x^2 + x - 2 < 0$.	
8 A ball is projected from level ground with velocity $(3\mathbf{i} + 29.4\mathbf{j})$ m s^{-1} ($\mathbf{i}$ horizontal, $\mathbf{j}$ vertically up). Take g = 9.8 m s^{-2}. (a) Find the time of flight. (b) Find the horizontal range.	
9 Use a double angle formula to find $\int \sin 4x \cos 4x \, dx$.	
10 Solve $x^{\frac{2}{3}} = 4$.	