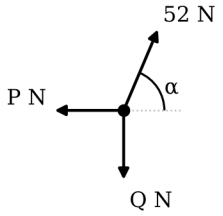
Day 274	A Level Maths: C Tier 10-a-day
1 Write $\sqrt{98}$ in the form $p\sqrt{q}$, where q is an integer as small as possible.	
2 The product moment correlation coefficient between age of a car and its value is $r = -0.9$. Interpret this value.	
3 $f(x) = x^3 - 6x^2 - 7x + 60$ (a) Show that $(x - 5)$ is a factor of f(x). (b) Factorise f(x) completely.	
4 Solve $3 \cos x = 2$ for $0 \leq x \leq 2\pi$. Give your answers to 3 significant figures.	
5 $X \sim N(25, 6^2)$. Given that $P(X < a) = 0.7$, find a to 3 s.f.	

Day 274 **A Level Maths: C Tier 10-a-day**

6 Solve $-3\cos^2 x - 3\sin x + 3 = 0$ for $0° \leq x \leq 360°$.

7 A particle is in equilibrium under the three forces shown. $\cos\alpha = \frac{5}{13}$. Find P and Q.



8 $\frac{4x + 7}{(x + 2)(x + 1)} \equiv \frac{A}{x + 2} + \frac{B}{x + 1}$.

Find A and B, and hence find $\int \frac{4x + 7}{(x + 2)(x + 1)}\,dx$.

9 A constant force of 80 N pulls a crate 8 m along rough horizontal ground against a constant frictional force of 5 N. Find (a) the work done by the pulling force, (b) the work done against friction.

10 Rationalise the denominator of $\frac{5}{1 - \sqrt{6}}$.

Write your answer in the form $p + q\sqrt{6}$.