(b) The displacement, x m, of a particle from a fixed point at time t s is given by $x = 6\cos\left(3t + \frac{\pi}{3}\right)$. Find the acceleration of the particle when $t = \frac{2\pi}{3}$. [3]

5 Given that the coefficient of x^2 in the expansion of $(1+x)\left(1-\frac{x}{2}\right)^n$ is $\frac{25}{4}$, find the value of the positive integer n. [5]