


| 23rd May  |  |
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| <p>Factorise fully<br/> <math>(y + 5)^4 - (y + 5)^3(y - 1)</math></p> <p>Do not attempt to expand brackets.</p>   | <br>Corbettmaths<br>$= (y + 5)^3 [y + 5 - (y - 1)]$ $= \underline{6(y + 5)^3}$  |
| <p>The nth term of a sequence is <math>\frac{7n^2 + 5}{2n^2 - 1}</math></p> <p>Find the limiting value of <math>\frac{7n^2 + 5}{2n^2 - 1}</math> as<br/> <math>n \rightarrow \infty</math></p>      | $= \frac{7 + \frac{5}{n^2}}{2 - \frac{1}{n^2}} \rightarrow \underline{\frac{7}{2}}$  |
| <p>Solve</p> <p><math>5\sin\theta = \cos\theta</math> for <math>0^\circ \leq \theta \leq 360^\circ</math></p>   | $\frac{\sin\theta}{\cos\theta} = \frac{1}{5}$ $\tan\theta = \frac{1}{5}$ $\underline{\theta = 11.3^\circ, 191.3^\circ}$  |
| <p>The line l is a tangent to the circle<br/> <math>(x - 5)^2 + (y + 12)^2 = 61</math> at the<br/>           point P.</p> <p>P is the point (10, -6)</p> <p>Work out the equation of the line l</p> | $C(5, -12) \quad P(10, -6)$ $m_{CP} = \frac{-6 + 12}{10 - 5} = \frac{6}{5}$ $\text{Tgt is } y + 6 = -\frac{5}{6}(x - 10)$ $y + 6 = -\frac{5}{6}x + \frac{25}{3}$ $\underline{y = -\frac{5}{6}x + \frac{7}{3}}$ |