

2		$(1-2x)^{\frac{1}{2}}$ $\approx 1 + \frac{1}{2}(-2x) + \frac{\frac{1}{2}\left(-\frac{1}{2}\right)}{2!}(-2x)^2 + \frac{\frac{1}{2}\left(-\frac{1}{2}\right)\left(-\frac{3}{2}\right)}{3!}(-2x)^3$ $= 1 - x - \frac{1}{2}x^2 - \frac{1}{2}x^3$ <p>valid for $-\frac{1}{2} < x < \frac{1}{2}$</p>	<p>M1</p> <p>A2</p> <p>B1</p> <p>[4]</p>	<p>1.1</p> <p>1.1</p> <p>2.3</p>	<p>binomial coefficients seen, allow one error</p> <p>$1 - x, -\frac{1}{2}x^2, -\frac{1}{2}x^3$ or A1 for 2 correct terms</p> <p>or $x < \frac{1}{2}$</p>	<p>In this case, the series converges for $x = \pm\frac{1}{2}$</p> <p>candidates are not expected to know this but allow \leq for either or both inequalities.</p>
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