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Number of middle terms when n is odd in binomial expansion

2

Derivation for expression of $(n - 1)$ by 2 in middle term when n is odd in binomial expansion

•

$$t_{\frac{n-1}{2}+1} = C(n, \frac{n-1}{2}) a^{n-\frac{n-1}{2}} x^{\frac{n-1}{2}}$$

•

$$t_{\frac{n-1}{2}+1} = \frac{n!}{(\frac{n-1}{2})!(\frac{n+1}{2})!} a^{\frac{n+1}{2}} x^{\frac{n-1}{2}}$$

Derivation for expression of $(n + 1)$ by 2 in middle term when n is odd in binomial expansion

•

$$t_{\frac{n+1}{2}+1} = C(n, \frac{n+1}{2}) a^{n-\frac{n+1}{2}} x^{\frac{n+1}{2}}$$

•

$$t_{\frac{n+1}{2}+1} = \frac{n!}{(\frac{n-1}{2})!(\frac{n+1}{2})!} a^{\frac{n-1}{2}} x^{\frac{n+1}{2}}$$

Expression of $(n - 1)$ by 2 in middle term when n is odd in binomial expansion

•

$$t_{\frac{n-1}{2}+1} = \frac{n!}{(\frac{n-1}{2})!(\frac{n+1}{2})!} a^{\frac{n+1}{2}} x^{\frac{n-1}{2}}$$

Expression of $(n + 1)$ by 2 in middle term when n is odd in binomial expansion

•

$$t_{\frac{n+1}{2}+1} = \frac{n!}{(\frac{n-1}{2})!(\frac{n+1}{2})!} a^{\frac{n-1}{2}} x^{\frac{n+1}{2}}$$