



Apply the binomial theorem

1

$$\begin{array}{c} (t+n)^5 \\ (t+n)^5 = \sum_{k=0}^5 \binom{5}{k} t^{5-k} n^k \end{array}$$

$$(t+n)^5 = \sum_{k=0}^5 \binom{5}{k} t^{5-k} n^k$$

A $\binom{5}{1} t^1 n^4$

B $\binom{5}{1} t^4 n^1$

C $\binom{5}{2} t^3 n^2$

D $\binom{1}{5} t^4 n^1$

2

$$\begin{array}{c} (q+w)^5 \\ (q+w)^5 = \sum_{k=0}^5 \binom{5}{k} q^{5-k} w^k \end{array}$$

$$(q+w)^5 = \sum_{k=0}^5 \binom{5}{k} q^{5-k} w^k$$

A 1

B 4

C 5

D 10

3

$(w+x)^4$

$(w+x)^4$

A $\binom{4}{3} w^1 x^3$

B $\binom{4}{2} w^2 x^2$

C $\binom{2}{4} w^2 x^2$

4

$(y+n)^5$

$(y+n)^5$

A 4

B 10

C 1

D 5

5

$$\begin{array}{c} (r-2)^5 \\ (r-2)^5 = \sum_{k=0}^5 \binom{5}{k} r^{5-k} (-2)^k \end{array}$$

$$(r-2)^5 = \sum_{k=0}^5 \binom{5}{k} r^{5-k} (-2)^k$$

A $\binom{5}{2} r^3 (-2)^2$

B $\binom{5}{2} r^2 (-2)^3$

C $\binom{2}{5} r^3 (-2)^2$

D $\binom{5}{2} r^3 (-2)^3$

6

$$\begin{array}{c} (x-3)^3 \\ (x-3)^3 = \sum_{k=0}^3 \binom{3}{k} x^{3-k} (-3)^k \end{array}$$

$$(x-3)^3 = \sum_{k=0}^3 \binom{3}{k} x^{3-k} (-3)^k$$

A $\binom{3}{3} x^0 \cdot -27$

B $\binom{3}{2} x^1 \cdot -6$

C $\binom{3}{2} x^1 \cdot 9$

7

$$\begin{array}{c} (m-2)^4 \\ (m-2)^4 = \sum_{k=0}^4 \binom{4}{k} m^{4-k} (-2)^k \end{array}$$

$(m-2)^4$

$$(m-2)^4 = \sum_{k=0}^4 \binom{4}{k} m^{4-k} (-2)^k$$

A -8

B 24

C 8

8

$(x+2)^5$

$(x+2)^5$

A $\binom{5}{2} x^3 (2)^3$

B $\binom{5}{2} x^2 (2)^3$

C $\binom{5}{2} x^3 (2)^2$

D $\binom{2}{5} x^3 (2)^2$



Apply the binomial theorem

9

$$(n+2)^5$$

$$(n+2)^5$$

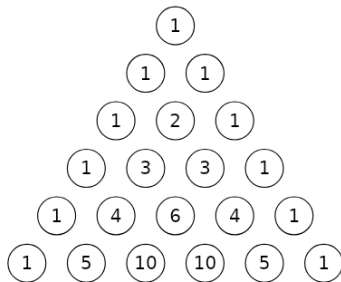
A $\binom{5}{3} n^2 \cdot 6$

B $\binom{5}{3} n^2 \cdot 8$

C $\binom{5}{4} n^1 \cdot 16$

11

Use Pascal's triangle to write the partly-expanded form (leave each power un-evaluated).



$$(2n-2)^2$$

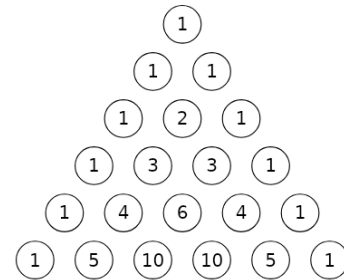
A $1 \cdot (2)^2 n^2 + 2 \cdot (2)^1 \cdot (-2)^1 n + 1 \cdot (-2)^2$

B $1 \cdot (2)^2 n^2 + 3 \cdot (2)^1 \cdot (-2)^1 n + 3 \cdot (-2)^2$

C $1 \cdot (2)^2 n^2 + 1 \cdot (2)^1 \cdot (-2)^1 n + 0 \cdot (-2)^2$

10

Use Pascal's triangle to write the partly-expanded form (leave each power un-evaluated).



$$(w+2)^3$$

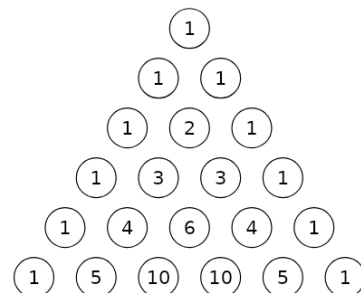
A $1w^3 + 4 \cdot (2)^1 w^2 + 6 \cdot (2)^2 w + 4 \cdot (2)^3$

B $1w^3 + 2 \cdot (2)^1 w^2 + 1 \cdot (2)^2 w + 0 \cdot (2)^3$

C $1w^3 + 3 \cdot (2)^1 w^2 + 3 \cdot (2)^2 w + 1 \cdot (2)^3$

12

Use Pascal's triangle to fully expand this expression.



$$(3q-3)^3$$

A $-81q^2 - 54q - 9$

B $27q^3 - 81q^2 + 81q - 27$

C $27q^3 - 54q^2 + 27q$