

**A2.A.36: Binomial Expansions 3: Apply the binomial theorem to expand a binomial and determine a specific term of a binomial expansion**

- 1 What is the fifth term in the expansion of  $(x - 2)^6$ ?
  - 1)  ${}_6C_2x^4(-2)^2$
  - 2)  ${}_6C_5x^5(-2)^1$
  - 3)  ${}_6C_1x(-2)^5$
  - 4)  ${}_6C_4x^2(-2)^4$
- 2 The fourth term in the expansion of  $(h + t)^6$  is
  - 1)  ${}_6C_3h^3t^3$
  - 2)  ${}_6C_4h^4t^2$
  - 3)  ${}_6C_4h^2t^4$
  - 4)  ${}_4C_3h^3t^3$
- 3 What is the last term in the expansion of  $(x - 2)^5$ ?
  - 1)  $-32x$
  - 2)  $32x$
  - 3)  $-32$
  - 4)  $32$
- 4 The third term of the expansion of  $(x - 3)^6$  is
  - 1)  $135x^4$
  - 2)  $-135x^4$
  - 3)  $540x^3$
  - 4)  $-540x^3$
- 5 What is the fourth term of the expansion  $(a + b)^4$ ?
  - 1)  $4a^2b^2$
  - 2)  $4ab^3$
  - 3)  $6ab^3$
  - 4)  $6a^2b^2$
- 6 What is the fourth term of the expansion  $(a + b)^5$ ?
  - 1)  $10a^2b^3$
  - 2)  $10a^3b^2$
  - 3)  $5a^2b^3$
  - 4)  $5a^3b^2$
- 7 What is the third term in the expansion of  $(a - 3b)^5$ ?
  - 1)  $90a^3b^2$
  - 2)  $45a^3b^2$
  - 3)  $-45a^3b^2$
  - 4)  $-90a^3b^2$
- 8 What is the 7th term in the expansion of  $(2x - y)^7$ ?
  - 1)  $7xy^6$
  - 2)  $-7xy^6$
  - 3)  $14xy^6$
  - 4)  $-14xy^6$
- 9 The fifth term in the expansion of  $(2x - y)^6$  is
  - 1)  $240x^2y^4$
  - 2)  $-240x^2y^4$
  - 3)  $60x^2y^4$
  - 4)  $-60x^2y^4$
- 10 What is the third term in the expansion of  $(a - 2b)^8$ ?
  - 1)  ${}_8C_3(a)^6(-2b)^2$
  - 2)  ${}_8C_2(a)^6(-2b)^2$
  - 3)  ${}_8C_3(a)^2(-2b)^6$
  - 4)  ${}_8C_2(a)^2(-2b)^6$

11 The last term in the expansion of  $(x + 3y)^4$  is

- 1)  $108xy^3$
- 2)  $81y^4$
- 3)  $3y^4$
- 4)  $243y^5$

12 What is the last term in the expansion of

$(2x - 3y)^5$ ?

- 1)  $-3y^5$
- 2)  $3y^5$
- 3)  $243y^5$
- 4)  $-243y^5$

13 The third term of the expansion  $(2x - 3y)^5$  is

- 1)  $10x^3y^2$
- 2)  $720x^3y^2$
- 3)  $-720x^3y^2$
- 4)  $-1080x^2y^3$

14 What is the fourth term in the expansion of

$(x - 2y)^5$ ?

- 1)  $80x^2y^3$
- 2)  $60x^2y^3$
- 3)  $-80x^2y^3$
- 4)  $-60x^2y^3$

15 What is the third term in the expansion of

$(2x - 3y)^3$ ?

- 1)  $18xy^2$
- 2)  $18x^2y^2$
- 3)  $54xy^2$
- 4)  $54x^2y^2$

16 What is the third term in the expansion of

$(x - 2y)^5$ ?

- 1)  $40x^3y^2$
- 2)  $10x^3y^2$
- 3)  $-10x^4y$
- 4)  $-80x^2y^3$

17 What is the fifth term in the expansion of

$(3a - b)^6$ ?

- 1)  $135a^2b^4$
- 2)  $540a^3b^3$
- 3)  $-18ab^5$
- 4)  $-135a^2b^4$

18 The fifth term of the expansion of  $(1 - \pi)^6$  is

- 1)  $15\pi^4$
- 2)  $6\pi^4$
- 3)  $-6\pi^5$
- 4)  $-30\pi^5$

19 What is the middle term in the expansion of

$(3x - 2y)^4$ ?

- 1)  $-6x^2y^2$
- 2)  $36x^2y^2$
- 3)  $-216x^2y^2$
- 4)  $216x^2y^2$

20 What is the middle term in the expansion  $(x - 3y)^4$ ?

- 1)  $54x^2y^2$
- 2)  $54xy^2$
- 3)  $9x^2y^2$
- 4)  $9xy^2$

21 What is the third term in the expansion of  $(x + 2y)^5$ ?

- 1)  $10x^3y^2$
- 2)  $40x^3y^2$
- 3)  $80x^2y^3$
- 4)  $20x^2y^3$

22 What is the third term in the expansion of  $(a - 3b)^4$ ?

- 1)  $6a^2b^2$
- 2)  $-6a^2b^2$
- 3)  $54a^2b^2$
- 4)  $-54a^2b^2$

23 What is the fourth term of the expansion  $(2x - y)^7$ ?

- 1)  $16x^4y^3$
- 2)  $35x^3y^4$
- 3)  $-560x^4y^3$
- 4)  $-560x^3y^4$

24 What is the third term in the expansion  $(2x - y)^3$ ?

- 1)  $6xy^2$
- 2)  $2xy^2$
- 3)  $-2xy^2$
- 4)  $-6xy^2$

25 What is the third term in the expansion of  $(2x - y)^4$ ?

- 1)  $-16x^3y$
- 2)  $16x^3y$
- 3)  $-24x^2y^2$
- 4)  $24x^2y^2$

26 What is the third term in the expansion of  $(a - 2b)^6$ ?

- 1)  $-160a^3b^3$
- 2)  $160a^3b^3$
- 3)  $-60a^4b^2$
- 4)  $60a^4b^2$

27 What is the second term in the expansion of  $\left(x^2 + \frac{x}{2}\right)^5$ ?

- 1)  $\frac{5x^5}{2}$
- 2)  $\frac{5x^7}{2}$
- 3)  $\frac{5x^8}{2}$
- 4)  $\frac{5x^9}{2}$

28 What is the sum of the coefficients in the expansion of  $(a + b)^5$ ?

- 1) 5
- 2) 16
- 3) 32
- 4) 40

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1	ANS: 4	REF: 010425siii
2	ANS: 1	REF: 068534siii
3	ANS: 3	REF: 088522siii
4	ANS: 1	REF: 088933siii
5	ANS: 2	REF: 069032siii
6	ANS: 1	REF: 089834siii
7	ANS: 1	REF: 068035siii
8	ANS: 3	REF: 068133siii
9	ANS: 3	REF: 018422siii
10	ANS: 2	REF: 068419siii
11	ANS: 2	REF: 018532siii
12	ANS: 4	REF: 018630siii
13	ANS: 2	REF: 088630siii
14	ANS: 3	REF: 088734siii
15	ANS: 3	REF: 068935siii
16	ANS: 1	REF: 089034siii
17	ANS: 1	REF: 019531siii
18	ANS: 1	REF: 019632siii
19	ANS: 4	REF: 019732siii
20	ANS: 1	REF: 069835siii
21	ANS: 2	REF: 010033siii
22	ANS: 3	REF: 060031siii
23	ANS: 3	REF: 080034siii
24	ANS: 1	REF: 010133siii
25	ANS: 4	REF: 060233siii
26	ANS: 4	REF: 010332siii
27	ANS: 4	REF: 088427siii
28	ANS: 3	REF: 080334siii