

### A.APR.C.5: Binomial Expansions 3

- 1 What is the middle term of the expansion  $(\sin x + 2)^4$ ?
  - 1)  $6\sin^4 x$
  - 2)  $8\sin^3 x$
  - 3)  $24\sin^2 x$
  - 4)  $32\sin x$
- 2 The third term in the expansion of  $(\sin x - 1)^3$  is
  - 1)  $3\sin x$
  - 2)  $-3\sin x$
  - 3)  $3\sin^2 x$
  - 4)  $-3\sin^2 x$
- 3 What is the fourth term in the expansion of  $(\cos x + 3)^5$ ?
  - 1)  $90\cos^2 x$
  - 2)  $270\cos^2 x$
  - 3)  $90\cos^3 x$
  - 4)  $270\cos^3 x$
- 4 What is the third term in the expansion of  $(\cos x - 1)^4$ ?
  - 1)  $6\cos^2 x$
  - 2)  $-6\cos^2 x$
  - 3)  $4\cos x$
  - 4)  $-4\cos x$
- 5 What is the middle term in the expansion of  $(2\sin x + \cos y)^4$ ?
  - 1)  $8\sin^3 x \cos x$
  - 2)  $8\sin x \cos^3 y$
  - 3)  $12\sin^2 x \cos^2 x$
  - 4)  $24\sin^2 x \cos^2 y$
- 6 What is the third term in the expansion of  $(\sin x - \cos y)^5$ ?
  - 1)  $10\sin^3 x \cos^2 y$
  - 2)  $-10\sin^3 x \cos^2 y$
  - 3)  $10\sin^2 x \cos^3 y$
  - 4)  $-10\sin^2 x \cos^3 y$
- 7 What is the fifth term in the expansion of  $(a + bi)^7$ ?
  - 1)  $35a^3 b^4$
  - 2)  $-35a^3 b^4$
  - 3)  $21a^2 b^5 i$
  - 4)  $-21a^2 b^5 i$

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**Answer Section**

1	ANS: 3	REF: 018731siii
2	ANS: 1	REF: 068834siii
3	ANS: 2	REF: 069731siii
4	ANS: 1	REF: 060329siii
5	ANS: 4	REF: 068735siii
6	ANS: 1	REF: 019434siii
7	ANS: 1	REF: 019022siii