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

1. 010820b, P.I. A2.A.36
   What is the coefficient of the fifth term in the expansion of $(x+1)^8$?

   [A] 28   [B] 56   [C] 8   [D] 70

2. 060619b, P.I. A2.A.36
   What is the fourth term in the expansion of $(y-1)^7$?

   [A] $-35y^3$ [B] $35y^3$

   [C] $-35y^4$ [D] $35y^4$

3. 060916b, P.I. A2.A.36
   What is the third term in the expansion of $(2x-3)^5$?

   [A] $-1080x^2$ [B] $720x^3$

   [C] $-720x^3$ [D] $1080x^3$

4. 080208b, P.I. A2.A.36
   What is the *last* term in the expansion of $(x+2y)^5$?

   [A] $10y^5$ [B] $32y^5$ [C] $2y^5$ [D] y^5

5. 080412b, P.I. A2.A.36
   What is the middle term in the expansion of $(x+y)^4$?

   [A] $4x^2y^2$ [B] $6x^2y^2$

   [C] x^2y^2 [D] $2x^2y^2$

6. 060517b, P.I. A2.A.36
   What is the third term in the expansion of $(\cos x + 3)^5$?

   [A] $270\cos^2 x$ [B] $90\cos^2 x$

   [C] $90\cos^3 x$ [D] $60\cos^3 x$

7. 010726b, P.I. A2.A.36
   What is the fourth term in the expansion of $(2x-y)^5$?

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[1] D

[2] C

[3] B

[4] B

[5] B

[6] C

[2] $-40x^2y^3$, and appropriate work is shown.
[1] Appropriate work is shown, but one computational error is made.
or [1] Appropriate work is shown, but one conceptual error is made.
or [1] $-40x^2y^3$, but no work is shown.
[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously
[7] incorrect procedure.