Binomial Expansion - Section Test

1. What is the row that is immediately below

    1   2   1

    in Pascal's triangle?

(a)   1   3   3   1.   (b)   1   2   2   1
(c)   1   3   2   3   1   (d)   1   2   3   1

2. What is the row that is immediately above

    1   5   10   10   5   1

    In Pascal's triangle

(a)   1   4   6   4   1.   (b)   1   6   15   20   15   6   1
(c)   1   4   5   4   1   (d)   1   4   6   6   4   1

3. Three of the following statements about entries in Pascal's triangle are true and **one** is false.
   Which **one** is false?

(a)   The row for coefficients in the expansion of $(1+x)^9$ contains the number 64.

(b)   The row for coefficients in the expansion of $(1+x)^5$ is 1 5 10 10 5 1.

(c)   The row for coefficients in the expansion of $(1+x)^7$ contains the number 35.

(d)   The row for coefficients in the expansion of $(1+x)^3$ is 1 3 3 1.

(e)   I don't know.

4. The coefficient of x^2 in the expansion of $(1+x)^{10}$ is:

(a)   2   (b)   20
(c)   45   (d)   90
(e)   I don't know.

5. The coefficient of x^4 in the expansion of $(1-x)^7$ is:

(a)   7   (b)   35
(c) -1 (d) -35
(e)   I don't know.

6. The coefficient of x^3 in the expansion of $(2 + 3x)^5$ is:

(a) 108
(b) 1080
(c) 60
(d) 40
(e) I don't know.

7. The coefficient of x^3 in the expansion of $(3 - 2x)^6$ is:

(a) 4320
(b) 216
(c) − 60
(d) − 4320
(e) I don't know.

8. The term independent of x in the expansion of $\left(2x - \dfrac{5}{x}\right)^6$ is:

(a) − 20 000
(b) 20 000
(c) 10
(d) − 200
(e) I don't know.

9. The coefficient of a^2b^5 in the expansion of $(3a - 2b)^7$ is:

(a) − 6048
(b) − 21
(c) 21
(d) − 288
(e) I don't know.

10. Which **one** of the following is a **correct** expansion and simplification of $(1 + 2x)^4 - (1 - 2x)^4$?

(a) $2 + 48x^2 + 32x^4$
(b) $16x + 64x^3$
(c) $2 + 16x + 48x^2 + 64x^3 + 32x^4$
(d) $2(x + x^3)$
(e) I don't know.