

1.  $m = -2$  일 때,  $3m(2m - 3) - 2m(2 - 4m)$  의 값은?

- ① -41      ② 30      ③ -18      ④ 0      ⑤ 82

해설

$$\begin{aligned}3m(2m - 3) - 2m(2 - 4m) &= 6m^2 - 9m - 4m + 8m^2 \\&= 14m^2 - 13m \\&= 14 \times (-2)^2 - 13(-2) \\&= 56 + 26 = 82\end{aligned}$$

2.  $(a + b + c - d)(-a + b + c + d) + (a + b - c + d)(a - b + c + d)$  를 전개하면?

- ①  $2ad + 2bc$       ②  $3ad + 3bc$       ③  $\textcircled{3} 4ad + 4bc$   
④  $3ad - 3bc$       ⑤  $4ad - 4bc$

해설

$$\begin{aligned}(a + b + c - d)(-a + b + c + d) + (a + b - c + d)(a - b + c + d) \\= \{(b + c) + (a - d)\}\{(b + c) - (a - d)\} + \{(a + d) + (b - c)\}\{(a + d) - (b - c)\} \\= (b + c)^2 - (a - d)^2 + (a + d)^2 - (b - c)^2 \\= b^2 + 2bc + c^2 - a^2 + 2ad - d^2 + a^2 + 2ad + d^2 - b^2 + 2bc - c^2 \\= 4ad + 4bc\end{aligned}$$

3.  $x + y = 3$ ,  $xy = -4$  일 때,  $x^2 + y^2 - xy$  의 값은?

- ① 18      ② 19      ③ 20      ④ 21      ⑤ 22

해설

$$\begin{aligned}x^2 - xy + y^2 &= (x + y)^2 - 3xy \\&= 3^2 - 3 \times (-4) \\&= 21\end{aligned}$$