1. $\dfrac{7+6\sqrt{6}}{\sqrt{3}} - 4\left(\sqrt{2}+\dfrac{\sqrt{3}}{3}\right)$ 을 간단히 하면?

① $\sqrt{2}-2\sqrt{3}$ ② $\sqrt{2}+2\sqrt{3}$ ③ $\sqrt{3}-2\sqrt{2}$

④ $\sqrt{3}+2\sqrt{2}$ ⑤ $\sqrt{5}-2\sqrt{2}$

해설

$$\frac{7+6\sqrt{6}}{\sqrt{3}} - 4\left(\sqrt{2}+\frac{\sqrt{3}}{3}\right)$$

$$= \frac{7\sqrt{3}+6\sqrt{18}}{3} - 4\sqrt{2} - \frac{4\sqrt{3}}{3}$$

$$= \frac{3\sqrt{3}+18\sqrt{2}}{3} - 4\sqrt{2} = \sqrt{3}+2\sqrt{2}$$

2. 다음 중 인수분해한 것이 옳지 <u>않은</u> 것은?

① $x^2 - 25 = (x+5)(x-5)$

② $x^2 + 2x - 8 = (x+4)(x-2)$

③ $2x^2 + 7x + 3 = (2x+1)(x+3)$

④ $4x^2 + 4x - 15 = (x-3)(4x+5)$

⑤ $x^2 - 14x + 49 = (x-7)^2$

해설

④ $4x^2 + 4x - 15 = (2x-3)(2x+5)$

3. $a > 0$ 일 때, 다음 계산에서 옳은 것을 모두 고르면? (정답 2개)

① $\sqrt{64a^2} - \sqrt{a^2} = 7a$

② $\sqrt{(11a)^2} + \sqrt{(-11a)^2} = 0$

③ $-\sqrt{169a^2} - \sqrt{(-3a)^2} = -10a$

④ $(-\sqrt{3a})^2 - (-\sqrt{7a})^2 = 10a$

⑤ $(-\sqrt{2a})^2 + (-\sqrt{a^2}) = a$

해설

② $\sqrt{(11a)^2} + \sqrt{(-11a)^2} = 11a + 11a = 22a$

③ $-\sqrt{169a^2} - \sqrt{(-3a)^2} = -13a - 3a = -16a$

④ $(-\sqrt{3a})^2 - (-\sqrt{7a})^2 = 3a - 7a = -4a$