

1. 다음 중에서 안에 들어갈 알맞은 식이 같은 것끼리 짝지은 것을 모두 골라라. (정답 2 개)

$$\textcircled{㉠} \quad 6x^2 \times \square = 24x^3$$

$$\textcircled{㉡} \quad (2x)^2 \times \square = 8x^3$$

$$\textcircled{㉢} \quad 16x^9 \div \square = 4x^8$$

$$\textcircled{㉣} \quad 2x^9 \div x^7 \div \square = x$$

$$\textcircled{1} \quad \textcircled{㉠}, \textcircled{㉡}$$

$$\textcircled{2} \quad \textcircled{㉠}, \textcircled{㉢}$$

$$\textcircled{3} \quad \textcircled{㉡}, \textcircled{㉣}$$

$$\textcircled{4} \quad \textcircled{㉢}, \textcircled{㉣}$$

$$\textcircled{5} \quad \textcircled{㉢}, \textcircled{㉣}$$

해설

$$\textcircled{㉠} \quad \square = 24x^3 \div 6x^2 = 4x$$

$$\textcircled{㉡} \quad \square = 8x^3 \div (2x)^2 = 8x^3 \div 4x^2 = 2x$$

$$\textcircled{㉢} \quad \square = 16x^9 \div 4x^8 = \frac{16x^9}{4x^8} = 4x$$

$$\textcircled{㉣} \quad 2x^9 \div x^7 \div \square = x \quad \text{이므로} \quad 2x^2 \div \square = x$$

$$\therefore \square = 2x^2 \div x = 2x$$

따라서, 안의 식이 같은 것은 $\textcircled{㉠}$ 과 $\textcircled{㉢}$, $\textcircled{㉡}$ 과 $\textcircled{㉣}$ 이다.

2. 밑변의 길이가 $a\text{cm}$, 높이가 $b\text{cm}$ 인 삼각형의 넓이를 $S\text{cm}^2$ 라고 할 때, $S = \frac{1}{2}ab$ 이다. 이 식을 a 에 관하여 풀면?

① $a = \frac{2S}{b}$

② $a = \frac{bS}{2}$

③ $a = 2S - b$

④ $a = S - \frac{b}{2}$

⑤ $a = \frac{S - b}{2}$

해설

$$S = \frac{1}{2}ab$$

$$S \times 2 \times \frac{1}{b} = \frac{1}{2}ab \times 2 \times \frac{1}{b}$$

정리하면 $\frac{2S}{b} = a$ 이다.

3. 다음 중 옳지 않은 것은?

① $a^6 \div a^3 = a^3$

② $b^6 \div b^{12} = \frac{1}{b^2}$

③ $a^8 \div a^2 \div a^2 = a^4$

④ $c^9 \div c^{10} = \frac{1}{c}$

⑤ $y^2 \div y^3 \times y^5 = y^4$

해설

① $a^6 \div a^3 = a^{6-3} = a^3$

② $b^6 \div b^{12} = b^{6-12} = b^{-6} = \frac{1}{b^6}$

③ $a^8 \div a^2 \div a^2 = a^{8-2-2} = a^4$

④ $c^9 \div c^{10} = c^{9-10} = c^{-1} = \frac{1}{c}$

⑤ $y^2 \div y^3 \times y^5 = y^{2-3+5} = y^4$

4. $(-64x^3y^4) \times \square \div 4x^2y^3 = -4x^2y$ 의 $\square$ 안에 알맞은 식은?

① $\frac{1}{3}x$

② $\frac{1}{4}x$

③ $\frac{1}{5}x$

④ $-\frac{1}{3}x$

⑤ $-\frac{1}{4}x$

해설

$$(-64x^3y^4) \times \square \div 4x^2y^3 = -4x^2y$$

$$(-64x^3y^4) \times \square \times \frac{1}{4x^2y^3} = -4x^2y$$

$$\square = -4x^2y \times 4x^2y^3 \times \frac{1}{-64x^3y^4}$$

$$\square = \frac{1}{4}x$$