

1. 다음 중 연립부등식 $\begin{cases} 4x - 3 > 3x - 1 \\ x + 5 \geq 2x - 1 \\ -x < 3 \end{cases}$ 의 해가 아닌 것은?

① 2

② 3

③ 4

④ 5

⑤ 6

해설

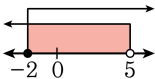
$$\begin{cases} 4x - 3 > 3x - 1 \\ x + 5 \geq 2x - 1 \\ -x < 3 \end{cases} \rightarrow \begin{cases} x > 2 \\ x \leq 6 \\ x > -3 \end{cases}$$

$$\therefore 2 < x \leq 6$$

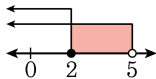
2. 다음 연립방정식의 해를 수직선 위에 바르게 나타낸 것은?

$$\begin{cases} 4(5 - 2x) \leq 4 \\ 3(7x + 1) < 108 \end{cases}$$

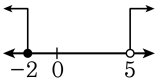
①



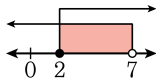
②



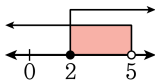
③



④



⑤



해설

$$4(5 - 2x) \leq 4 \Rightarrow x \geq 2$$

$$3(7x + 1) < 108 \Rightarrow x < 5$$

$$\therefore 2 \leq x < 5$$

3. 두 순서쌍 (x_1, y_1) , (x_2, y_2) 에 대하여 $(x_1, y_1) \times (x_2, y_2) = x_1x_2 + x_1y_2 + y_1x_2 + y_1y_2$ 로 정의 한다. 이 때, $(2x, y) \times (-y, 3x)$ 를 간단히 하면?

① $-6x^2 + 2xy - y^2$

② $-6x^2 + xy + 3y^2$

③ $2x^2 - xy - y^2$

④ $6x^2 + xy - y^2$

⑤ $6x^2 - xy + 3y^2$

해설

$$\begin{aligned} & 2x \times (-y) + 2x \times 3x + y \times (-y) + y \times 3x \\ &= -2xy + 6x^2 - y^2 + 3xy \\ &= 6x^2 + xy - y^2 \end{aligned}$$