



If the length and width of a rectangle are $(5y^2 - 8y - 4)$ and $(-8y^2 - 3)$, find the area of the rectangle.

Question:

- A. $-40y^4 + 64y^3 + 17y^2 + 24y + 12$
- B. $40y^4 + 64y^3 - 17y^2 + 24y + 12$
- C. $40y^4 + 64y^3 + 17y^2 - 24y + 12$
- D. $-40y^4 + 64y^3 + 17y^2 + 24y - 12$

Answer:

Given:



$$l = \text{length} = (5y^2 - 8y - 4)$$

$$w = \text{width} = (-8y^2 - 3)$$

$$\therefore \text{area of rectangle} = l \times w$$

$$= (5y^2 - 8y - 4)(-8y^2 - 3)$$

$$= -40y^4 + 64y^3 + 32y^2 - 15y^2 + 24y + 12$$

$$= -40y^4 + 64y^3 + 17y^2 + 24y + 12$$

$\therefore$ Answer is option (A)

