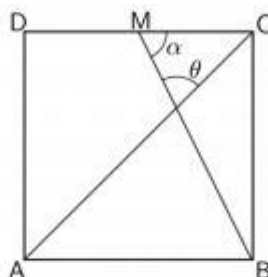


Questão 28

A figura abaixo exibe um quadrado  $ABCD$  em que  $M$  é o ponto médio do lado  $CD$ .

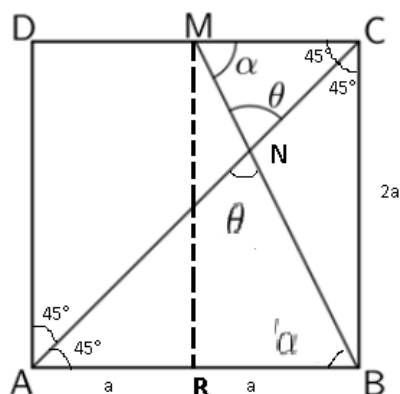


Com base na figura,  $\text{tg}(\theta) + \text{tg}(\alpha)$  é igual a

- |       |       |
|-------|-------|
| a) 7. | c) 5. |
| b) 6. | d) 4. |

RESPOSTA

Alternativa C



No triângulo RMB:  $\text{tg}\alpha = \frac{2a}{a} \Rightarrow \text{tg}\alpha = 2$

No triângulo ANB:

$$45^\circ + \alpha + \theta = 180 \Rightarrow \theta = 135 - \alpha$$

$$\Rightarrow \text{tg}\theta = \text{tg}(135^\circ - \alpha)$$

$$\Rightarrow \text{tg}\theta = \frac{\text{tg}135^\circ - \text{tg}\alpha}{1 + \text{tg}135^\circ \text{tg}\alpha}$$

$$\Rightarrow \text{tg}\theta = \frac{-1 - \text{tg}\alpha}{1 - \text{tg}\alpha} \Rightarrow \text{tg}\theta = \frac{-1 - 2}{1 - 2} \Rightarrow \text{tg}\theta = 3$$

$$\therefore \text{tg}\theta + \text{tg}\alpha = 3 + 2 = 5$$