

SIMULAZIONE n°1

$$\theta_1 = 30^\circ$$

$$n_c = 1,4$$

(cornea)

$$? = \alpha$$

$$? = \alpha_2 \quad n_a = 1,33$$

acqua

$$? = \alpha_3$$

$$n_1 = 1 \text{ (aria)}$$

$$n_2 = 1,33$$

$$\textcircled{A} \quad \theta_2 = \alpha$$

$$n_1 \sin \theta_1 = n_c \sin \alpha$$

$$\sin \alpha = \frac{n_1 \sin \theta_1}{n_c}$$

$$= \frac{1 \cdot \sin 30^\circ}{1,4} = \frac{5}{14}$$

$$\alpha = 20,9^\circ$$

$$\textcircled{B} \quad n_a \sin \theta_1 = n_c \sin \alpha_2$$

$$\sin \alpha_2 = \frac{n_a \sin \theta_1}{n_c} =$$

$$\frac{1,33 \cdot \sin 30^\circ}{1,4} = \frac{10}{40}$$

$$\alpha_2 = 28,4^\circ$$

$$\textcircled{C} \quad n_a \sin \theta_1 = n_c \sin \alpha$$

$$\theta_1 = \arcsin \left(\frac{n_c \sin 20,9^\circ}{n_a} \right) =$$

$$= \arcsin \left(\frac{1,4 \cdot \sin 20,9^\circ}{1,33} \right) =$$

$$\theta_1 = 22,05^\circ$$