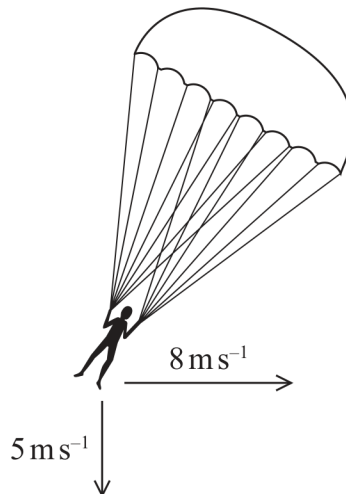


- 4 The diagram shows a student during a parachute jump on a windy day. The vertical component of her velocity is 5.0 m s^{-1} . The horizontal component of her velocity is 8.0 m s^{-1} . She descends at an angle θ to the vertical.



Which row of the table gives expressions for the magnitude and angle of the student's resultant velocity?

| | Magnitude / m s^{-1} | $\theta / ^\circ$ |
|----------------------------|-------------------------------|-------------------------|
| <input type="checkbox"/> A | $\sqrt{8^2 - 5^2}$ | $\tan^{-1} \frac{8}{5}$ |
| <input type="checkbox"/> B | $\sqrt{8^2 - 5^2}$ | $\sin^{-1} \frac{5}{8}$ |
| <input type="checkbox"/> C | $\sqrt{8^2 + 5^2}$ | $\tan^{-1} \frac{8}{5}$ |
| <input type="checkbox"/> D | $\sqrt{8^2 + 5^2}$ | $\sin^{-1} \frac{5}{8}$ |

(Total for Question 4 = 1 mark)