

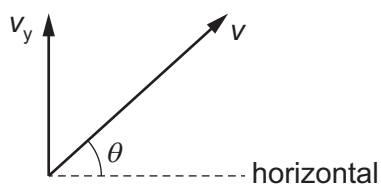
- 1 Which row shows what all physical quantities must have?

	magnitude	direction	unit
<b>A</b>	✓	✓	✓
<b>B</b>	✓	✓	✗
<b>C</b>	✓	✗	✓
<b>D</b>	✗	✗	✓

- 2 What is an alternative way of expressing an energy of 43 dJ?

- A**  $4.3 \times 10^3 \text{ mJ}$   
**B**  $4.3 \times 10^3 \text{ MJ}$   
**C**  $4.3 \times 10^{-3} \text{ mJ}$   
**D**  $4.3 \times 10^{-3} \text{ MJ}$

- 3 A tennis ball is hit so that it leaves the racket with velocity  $v$  at an angle  $\theta$  to the horizontal.



The vertical component of the velocity is  $v_y$ .

What is the magnitude of the horizontal component of  $v$ ?

- A**  $v \sin \theta$       **B**  $v_y \cos \theta$       **C**  $v_y \sin \theta$       **D**  $(v^2 - v_y^2)^{\frac{1}{2}}$