

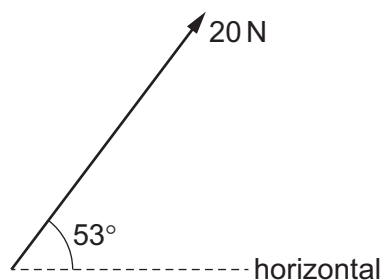
1 What is a reasonable estimate of the kinetic energy of an Olympic athlete sprinting in a 100 m race?

- A 40 J                      B 400 J                      C 4000 J                      D 40000 J

2 What is a unit of momentum?

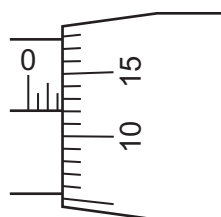
- A  $\text{kg m s}^{-2}$                       B  $\text{N s}^{-1}$                       C N s                      D  $\text{kg s m}^{-1}$

3 What is the horizontal component of the force shown?

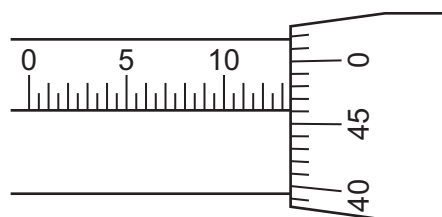


- A 12 N                      B 16 N                      C 25 N                      D 27 N

4 The diagram shows two readings on a micrometer.



reading 1



reading 2

What is the difference between the two readings?

- A 10.34 mm                      B 11.84 mm                      C 12.34 mm                      D 12.84 mm

5 The diameter of a circular disc is measured as  $(7.0 \pm 0.1) \text{ mm}$ .

What is the area of the disc and the absolute uncertainty in the area?

	area of disc / $\text{mm}^2$	absolute uncertainty / $\text{mm}^2$
A	38.5	$\pm 0.5$
B	38	$\pm 1$
C	154	$\pm 2$
D	154	$\pm 4$