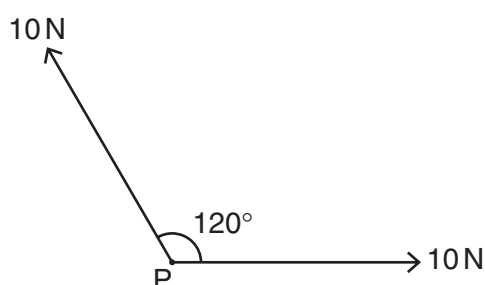


- 1 Which of the following is a scalar quantity?
- A acceleration  
B mass  
C momentum  
D velocity
- 2 The unit of work, the joule, may be defined as the work done when the point of application of a force of 1 newton is moved a distance of 1 metre in the direction of the force.

Express the joule in terms of the base units of mass, length and time, the kg, m and s.

- A  $\text{kg m}^{-1} \text{s}^2$       B  $\text{kg m}^2 \text{s}^{-2}$       C  $\text{kg m}^2 \text{s}^{-1}$       D  $\text{kg s}^{-2}$
- 3 Two forces, each of 10 N, act at a point P as shown in the diagram. The angle between the directions of the forces is  $120^\circ$ .



What is the magnitude of the resultant force?

- A 5 N      B 10 N      C 17 N      D 20 N
- 4 Which experimental technique reduces the systematic error of the quantity being investigated?
- A adjusting an ammeter to remove its zero error before measuring a current  
B measuring several internodal distances on a standing wave to find the mean internodal distance  
C measuring the diameter of a wire repeatedly and calculating the average  
D timing a large number of oscillations to find a period
- 5 A student makes measurements from which she calculates the speed of sound as  $327.66 \text{ m s}^{-1}$ . She estimates that her result is accurate to  $\pm 3 \%$ .

Which of the following gives her result expressed to the appropriate number of significant figures?

- A  $327.7 \text{ m s}^{-1}$       B  $328 \text{ m s}^{-1}$       C  $330 \text{ m s}^{-1}$       D  $300 \text{ m s}^{-1}$