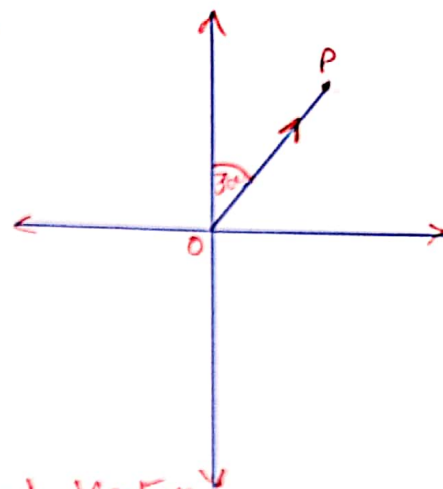


EXERCISE 10.1

QNo 1. Represent graphically a displacement of 40 km 30° east of North

Sol.

Let 16 km be represented by 1 cm.
Then 40 km will be represented
by a line segment of 2.5 cm
as shown in fig. The vector
in reference is represented by
directed line segment OP.



QNo 2 Classify the following as Scalars and Vectors.

- (i) 10 kg (ii) 2 meter North-west (iii) 40° (iv) 40 watt.
(v) 10^{-19} coulomb (vi) 20 m/sec^2 .

Sol.

- (i) Scalar (ii) Vector (iii) Scalar (iv) Scalar.
(v) Scalar (vi) Scalar, as 20 m/sec^2 is simply
rate of change of speed without any reference to direction.

QNo 3 Classify the following as scalars and vector quantities.

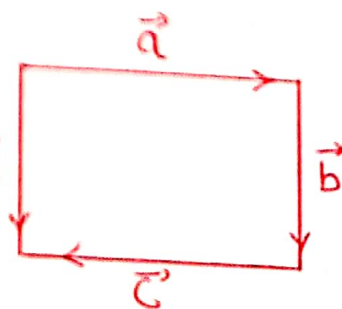
- (i) time period (ii) distance (iii) force (iv) velocity
(v) Work done.

Sol.

- (i) time period is scalar quantity
(ii) distance is scalar quantity.
(iii) Velocity is vector quantity.
(iv) force is vector quantity.
(v) Work done is scalar quantity.

QNo 4 In fig, identify the following vectors

- (i) Co-initial
(ii) Equal (iii) Collinear but not equal



Sol:

- (i) $\vec{a}$ and $\vec{d}$ are co-initial Vectors.
(ii) $\vec{b}$ and $\vec{c}$ are equal Vectors
(iii) $\vec{a}$ and $\vec{c}$ are collinear but Not equal.

Q No 5 Answer the following as true or false.

- (i) $\vec{a}$ and $-\vec{a}$ are collinear.
- (ii) Two collinear vectors are always equal in magnitude
- (iii) Two vectors having same magnitude are collinear.
- (iv) Two collinear vectors having same magnitude are equal.

Sol.

- (i) True
- (ii) false
- (iii) false
- (iv) false.

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PREPARED By : Rupinder Kaur Lect. Maths.
GSSS BHARI (FGS)