

1) Convert each true bearing to its equivalent quadrant bearing.

a) 065°

b) 120°

c) 235°

d) 270°

e) 310°

f) 017°

2) Convert each quadrant bearing to its equivalent true bearing.

a) $N40^\circ E$

b) $S65^\circ E$

c) $S32^\circ W$

d) $N27^\circ W$

e) $S54^\circ W$

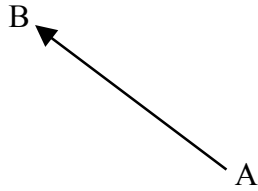
f) $N11^\circ W$

3) In the space to the right, draw and name...

a) a vector parallel to \vec{AB}

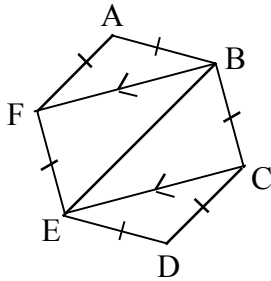
b) a vector opposite to \vec{AB}

c) a vector equivalent to \vec{AB}

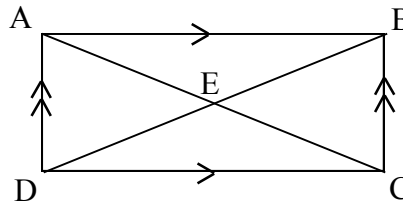


4) Name all the equivalent vectors in each diagram.

a)



b)



5) State the opposite of each vector.

a) 300 km north

b) 700 N on a bearing of 120°

c) 180 km/h on a quadrant bearing of $S25^\circ W$

6) Use an appropriate scale to draw each vector. Label magnitude, direction

a) displacement of 50 km west

b) velocity of 8 m/s on a true bearing of 140°

c) force of 1200 N downward

d) acceleration of 240 m/s^2 on a quadrant bearing of $\text{N}40^\circ\text{W}$

e) velocity of 7 km/h at 25° to the horizontal

7) State whether the following are vectors or scalars:

a) A table weighs 80 N

b) A woman's age is 60 years old

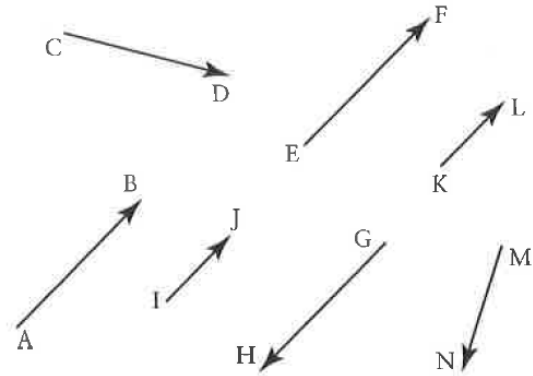
c) 300 km/h

d) An elevator lifts a person 20 m

8a) Which vectors are parallel to \overrightarrow{AB} ?

b) Which vectors are equivalent to \overrightarrow{AB} ?

c) Which vectors are opposite to \overrightarrow{AB} ?

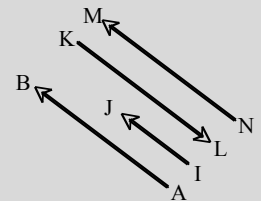


Answer Key:

1) a) N65°E b) S60°E c) S55°W d) W e) N50°W f) N17°E

2) a) 40° b) 115° c) 212° d) 333° e) 234° f) 349°

3) Diagrams may vary. For example, in the diagram shown, \overrightarrow{IJ} is parallel to \overrightarrow{AB} , \overrightarrow{KL} is opposite to \overrightarrow{AB} , and \overrightarrow{MN} is equivalent to \overrightarrow{AB} .

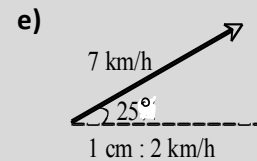
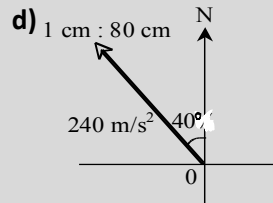
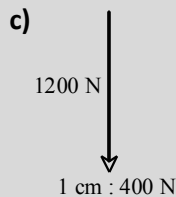
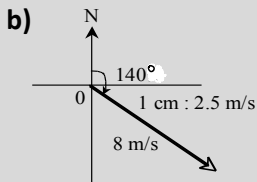
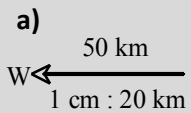


4) a) $\overrightarrow{AB} = \overrightarrow{ED}$, $\overrightarrow{BC} = \overrightarrow{FE}$, $\overrightarrow{CD} = \overrightarrow{AF}$, $\overrightarrow{DE} = \overrightarrow{BA}$, $\overrightarrow{EF} = \overrightarrow{CB}$, $\overrightarrow{FA} = \overrightarrow{DC}$, $\overrightarrow{FB} = \overrightarrow{EC}$, $\overrightarrow{BF} = \overrightarrow{CE}$

b) $\overrightarrow{AB} = \overrightarrow{DC}$, $\overrightarrow{BA} = \overrightarrow{CD}$, $\overrightarrow{AD} = \overrightarrow{BC}$, $\overrightarrow{DA} = \overrightarrow{CB}$, $\overrightarrow{DE} = \overrightarrow{EB}$, $\overrightarrow{BE} = \overrightarrow{ED}$, $\overrightarrow{AE} = \overrightarrow{EC}$, $\overrightarrow{CE} = \overrightarrow{EA}$

5) a) 300 km south b) 700 N on a bearing of 300° c) 180 km/h on a quadrant bearing of N25°E

6) Diagrams may vary.



7) a) Vector – weight is due to the force of gravity and therefore has a direction

b) Scalar – this has no direction c) Scalar – there is no direction so this is just speed

d) Vector – there is magnitude and direction (up)

8) a) $\overrightarrow{EF}, \overrightarrow{IJ}, \overrightarrow{KL}, \overrightarrow{GH}$ b) \overrightarrow{EF} c) \overrightarrow{GH}