

Motion and measurement

- ① Land - Train, Bus
 Water - Ship, Boat
 Air - Helicopter, Aeroplane

- ② (i) one metre is 100 cm.
 (ii) Five kilometre is 5000 m.
 (iii) motion of a child on a swing is periodic.
 (iv) motion of the needle of a sewing machine is periodic.
 (v) motion of wheel of a bicycle is circular.

③ Pace or a footstep cannot be used as a standard unit of length because it varies from person to person.

- ④ 1 millimetre, 1 centimetre, 1 metre, 1 kilometre

(5) $1.65 = 165 \text{ cm}$
 $= 1650 \text{ mm}$

(6) $1 \text{ km} = 1000 \text{ m}$
 $3250 \text{ m} = 3.25 \text{ km}$

(7) Length of needle = $33.1 - 3$
 $= 30.1 \text{ cm}$

(8) Similarities: - The blades of a fan and the wheels of a bicycle show circular motion.

Differences - Bicycle move in rectilinear motion, but the fan does not move in rectilinear motion.

(9) An elastic measuring tape will not give accurate measurement as it stretches in length and reduces in size when stretched.

- (10) a. A needle of a sewing machine
b. pendulum