3 A stone on a string is made to travel along a horizontal circular path, as shown in Fig. 3.1.

Fig. 3.1

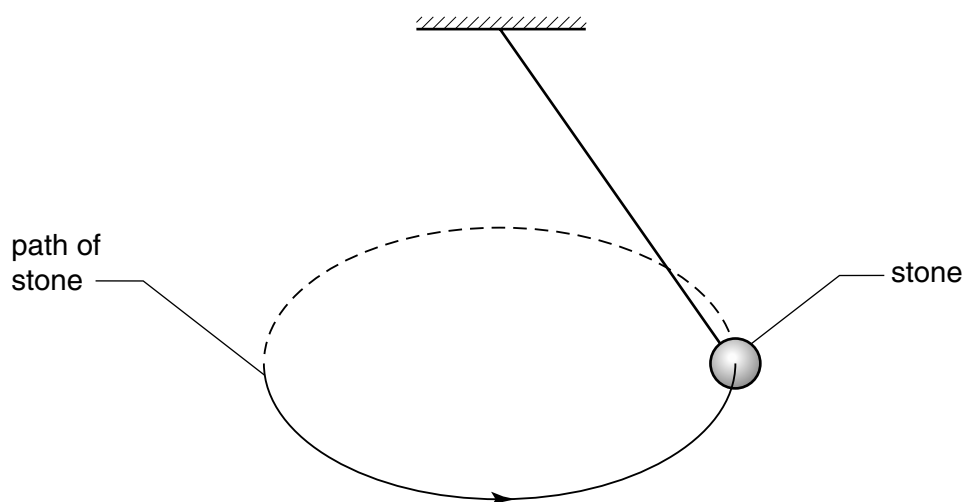The stone has a constant speed.

(a) Define *acceleration*.

....

.... [1]

(b) Use your definition to explain whether the stone is accelerating.

....

....

.... [2]

(c) The stone has a weight of 5.0 N. When the string makes an angle of 35° to the vertical, the tension in the string is 6.1 N, as illustrated in Fig. 3.2.
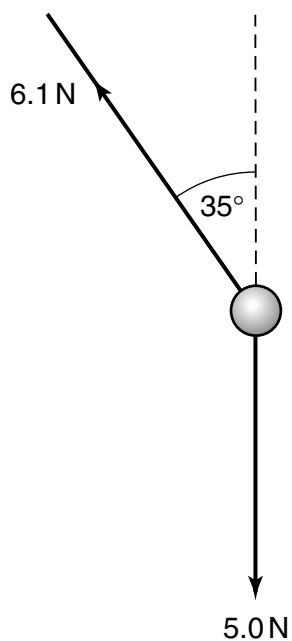
6.1 N

35°

5.0 N

Fig. 3.2

Determine the resultant force acting on the stone in the position shown.

magnitude of force = ……………..…………………… N

direction of force….………………..………………….. [4]