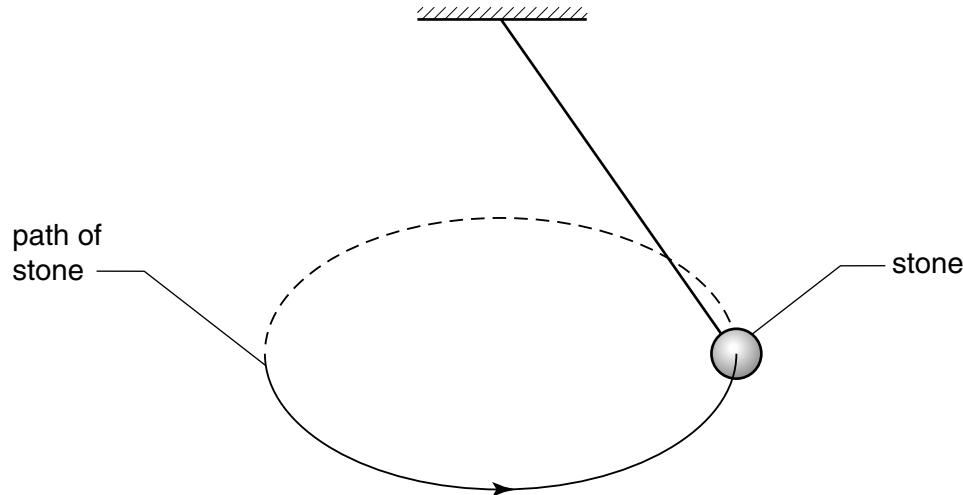


- 3 A stone on a string is made to travel along a horizontal circular path, as shown in Fig. 3.1.



**Fig. 3.1**

The stone has a constant speed.

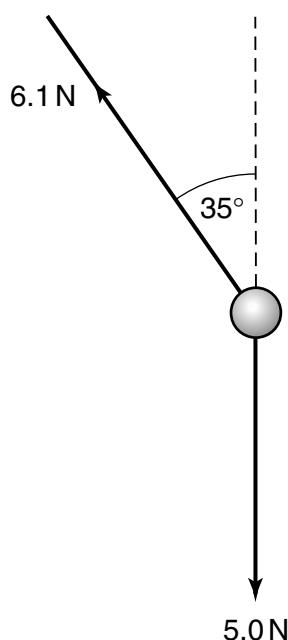
- (a) Define *acceleration*.

..... [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  $35^\circ$  to the vertical, the tension in the string is 6.1 N, as illustrated in Fig. 3.2.



**Fig. 3.2**

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

magnitude of force = ..... N

direction of force ..... [4]