1a.

1. There are directions in every node listed so this is a walk. This is not a path as node 3 is repeated twice. It is not a cycle as it doesn't start and end with 1.

2. There are directions on every node listed so this is a walk. This is a path as no node is repeated twice. It is not a cycle as it doesn't start and finish at the same node.

b.

1. 4 -> 2 -> 1, which is a distance of 2.

2. 6 -> 3-> 5-> 6, which is a cycle so there is no connection between 6 and 4 so it is unreachable.

c.

node 0: longest shortest path is 4 = max

node 1: longest shortest path is 2

node 2: longest shortest path is 3

node 3: longest shortest path is 1 = min

node 4: longest shortest path is 3

node 5: longest shortest path is 2

node 6: longest shortest path is 2

So the diameter is 4 and the radius is 1