# UCM Test Review **Answer Key**

1.
- a) Same linear velocity
- b) Same angular velocity
- c) Same $a_{centrip}$
- d) B has twice the $F_{centrip}$

2.
a) A has twice the linear velocity
b) A has twice the angular velocity
c) A has four times the a_c
d) A has four times the F_c

3.
a) B has twice the linear velocity
b) B has twice the angular velocity
c) B has four times the a_c
d) B has two times the F_c

4.
a) B has twice the linear velocity
b) Same angular velocity
c) B has two times the a_c
d) B has two times the F_c

5.
a) Same linear velocity
b) A has twice the angular velocity
c) A has twice the a_c
d) Same F_c

6.
a) B has four times the linear velocity
b) B has twice the angular velocity
c) B has eight times the a_c
d) B has 16 times the F_c

7.
a) total force would point <u>down</u>
b) 1 m/s^2
c) 200N
d) 1760N

8.
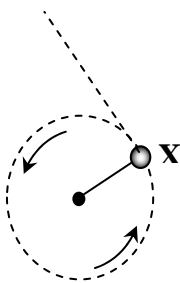
9. A **Centripetal force** – Centripetal in Latin means "center seeking". A force that makes a body follow a curved path. Its direction is always perpendicular to the velocity. It will point toward the center of the circle. It can be calculated using $\Sigma F_c = (mv^2)/r$

10. Centripetal accerlation is an acceleration of an object following a curve path. It will always point to the center of the circle. It can be calculated using the formula: $a_c = v^2/r$

11.
a) tangent to the circle
b) points toward center of circle
c) points toward center of circle