Physics
Circular Motion

Name:_____
1 2 3 4 5 6 7 8

Part I: Rotate vs. Revolve

Are the following objects rotating or revolving? Circle the right answer for each scenario.

1) Tires on a moving car?
rotate or revolve

2) Car doing doughnuts?
rotate or revolve

3) A lazy susan?
rotate or revolve

4) A dog chasing its tail?
rotate or revolve

5) A cup of water swinging around a teachers head?
rotate or revolve

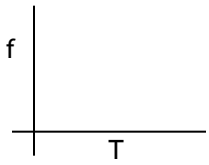
6) A basket ball spinning on a dude's finger?
rotate or revolve

7) The moons motion around the earth?
rotate or revolve

8) A juggler balancing a spinning plate on a stick? (the spinning plate)
rotate or revolve

Part II: Period vs. Frequency

9) Sketch the graph.



10) If the period of an object in circular motion is tripled, what will happen to the frequency?

11) If the frequency of an object were to decrease by a factor of 4, what will happen to the period?

12) The period of motion is 2 seconds. If its frequency is increased by 8, what will the new period be?

Part III: Fill in the table

Real World Example	Period T	Frequency one way	Frequency another way	Frequency F (Hz)
13) Rotation of Earth				
14)	365.242 days			
15) Revolution of our Moon				
16) Computer processor	3.33×10^{-10} seconds			
17)				2 Hz
18) Minute hand on a clock	1 hr			
19)		1 per minute 1/min		
20) B96 radio station				96300000 Hz
21) Poopy diapers at Kulak house**			28 per 7 days 28/(7 days)	

**2008 numbers

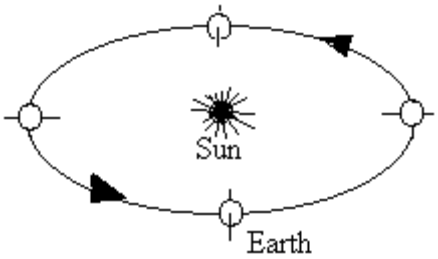
Part IV: Which way did they go?
Given the pictures of the objects in circular motion:

1) Show the direction with an arrow of VELOCITY (v), ACCELERATION (a), and NET FORCE (ΣF). I should not have to mention this but these are not free body diagrams (FBD) which should only have forces on them.

2) State what supplies the force causing the circular motion.

3) State if the force is a push or a pull.

22) The Earth when it is at 3 o'clock



Name of force(s):_____

Push or Pull

23) The car in first place

Name of force(s):_____

Push or Pull

24) Rider in the car at the top.

Name of force(s):_____

Push or Pull

25) A person in the front car

Name of force(s):_____

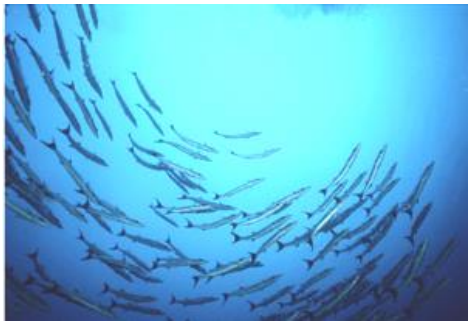
Push or Pull

26) The Dude.

Name of force(s):_____

Push or Pull

27) The fish that is smiling



Name of force(s):_____

Push or Pull

Part V: Color the dots to reveal a hidden picture.