

Name: _____ Period: _____ Date: _____

Force and Motion Review Packet

Parent Signature: _____ (will receive 5pts extra credit for your test if your parents sign).

Explain the following vocabulary words. You can provide examples to help explain the meaning of the words.

Acceleration	
Gravity	
Velocity	
Speed	
Gravitational Force	
Force	
Unbalanced Force	

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Balanced Force	
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State Newton's 3 laws of motion and provide an example for each:

1.

2.

3.

Practice Problems:

1. What forces are acting on a ball that is thrown in the air? (you can draw a diagram and show with arrows the forces).
2. What amount of force (in Newtons) would we need to accelerate an object that has 35kg of mass and its acceleration is 25m/s^2 .
3. Using arrows, draw and label the direction of the forces that are working on a baseball as it flies through the air.

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4. Draw a graph that shows the motion of a person doing the following
- Walking at a constant speed.
 - Stopped for a break for 5 seconds.
 - Just starts to run.

5. What are the units that we use for mass, velocity(speed) and acceleration?

6. In tug of war, the rope will go in the direction of what?

7. What does friction do to moving objects?

8. What are the equations we use involving speed, distance and time?

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9. What are the equations we use involving force, mass and acceleration?
 10. A roller coaster flies along at 80m/s . How long does it take to travel 16000 meters of track?
 11. LeBron James steals the ball and makes a break for the basket. He runs 32 meters in 4 seconds. What is his speed?
 12. You are being chased by zombies and you are moving at a speed of 3m/s . If you can run at that pace for 60 seconds. How far did you run?
 13. A car goes from a stop to 30km/s in 25 seconds. What is the acceleration?
 14. Calculate the acceleration of a lizard from $.3\text{m/s}$ to $.7\text{m/s}$ in 30 seconds?
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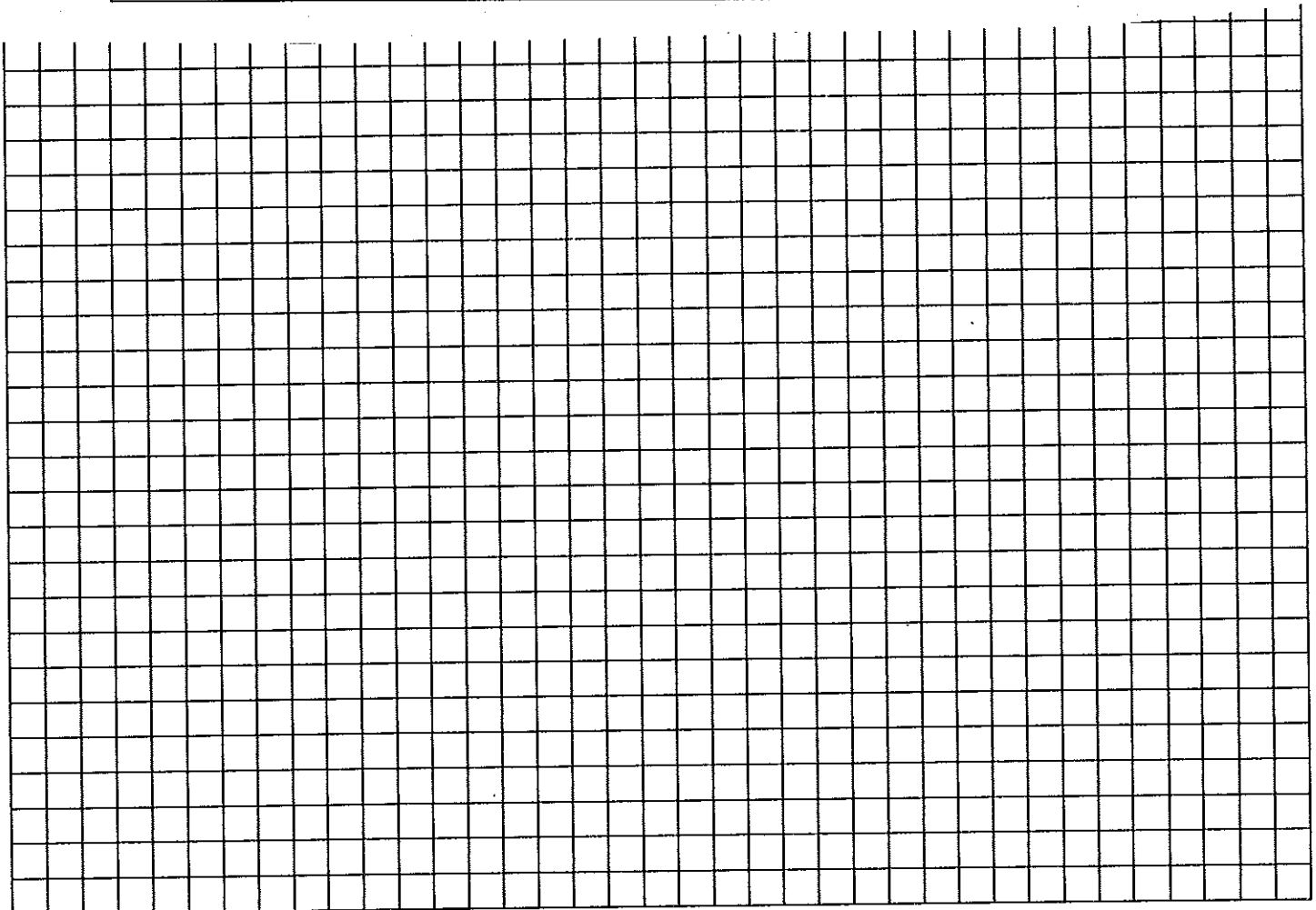
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15. Use information from a recent go-kart championship using the chart below to create a graph. The graph must show how fast the cars were traveling during each lap. Speeds were measured in km/hr.

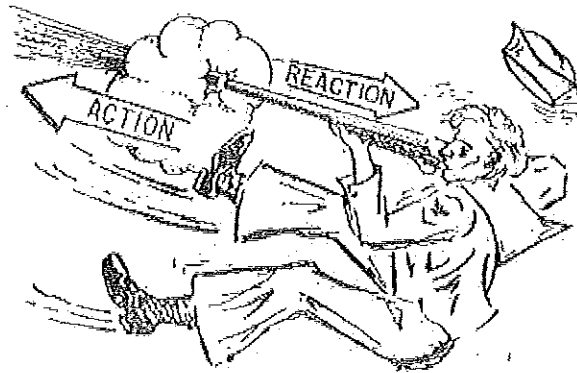
Use two different colors to make the graph.

Go-Kart #17 = _____ Go-Kart #42 = _____

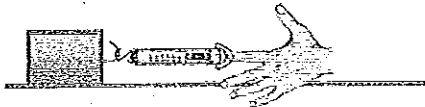
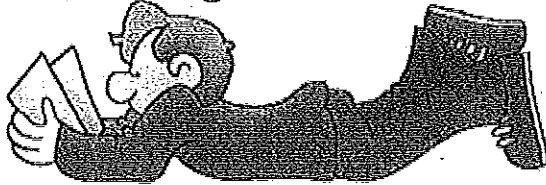
Lap	Go-Kart #17	Go-Kart #42
1	27 km/hr	18 km/hr
2	30 km/hr	28 km/hr
3	26 km/hr	26 km/hr
4	28 km/hr	24 km/hr



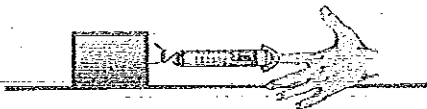
Name _____



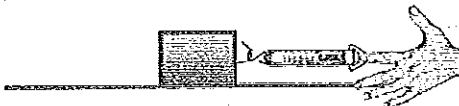
Newton's Laws



The block was at rest.



An external force was applied to the block by a pull from the hand and spring scale.



Application of the external force caused the block to change its motion.

WITH NO OUTSIDE FORCES,
THIS OBJECT WILL
NEVER MOVE



WITH NO OUTSIDE FORCES
THIS OBJECT WILL
NEVER STOP



