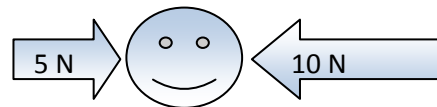


Review for Forces IOLA Test (Chapter 10)

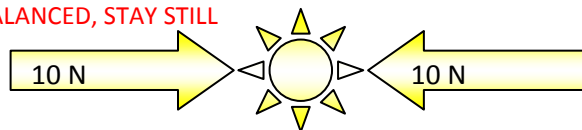
ANSWERS

FORCES - ANSWERS

1. Why do things keep on moving that are moving and things that are still stay still unless acted on by an outside force?
INERTIA
2. When forces (like gravity and the normal force of the track) act on the same object, the forces get _____ together (Added, Multiplied, or Divided). **ADDED**
3. Forces can only be added together when they act on the same object (True/False)? **TRUE**
4. What does force =? or What is Newton's 2nd Law of Motion? **MA or (MASS X ACCELERATION)**
5. Force is a vector quantity. This means it has both _____ and _____. **MAGNITUDE (SIZE) & DIRECTION**
6. If you increase the mass of the object, but want it to accelerate just as fast as before; what must you do to the force pushing or pulling the object? **INCREASE IT**
7. All matter does what to other matter according to the Universal Law of Gravity? **ATTRACT**
8. If forces are balanced there is _____ movement. If forces are not balanced there is _____. **BALANCED = NO MOVEMENT, UNBALANCED = MOVEMENT**
9. When forces on a ball sitting on the top of the hill are not balanced, we would expect the ball to (stay at the top of the hill or roll down the hill). **ROLL DOWN THE HILL**
10. What is the definition of force? **A PUSH OR A PULL**
11. Name two ways to increase inertia. **INCREASE THE MASS OR INCREASE THE VELOCITY**
12. Name two ways to increase momentum. **INCREASE THE MASS OR INCREASE THE VELOCITY**
13. Demo Bear can stay on the string without falling because the forces acting on him are _____. What are the two forces acting on Demo Bear when he is on his unicycle resting on the string not moving? **BALANCED, GRAVITY & NORMAL FORCE**
14. Why does it sometimes seem like gravity discriminates against objects that have little mass (EX: paper)? **AIR RESISTANCE**
15. When you stretch a rubber band you increase the _____ on the rubber band. When you squeeze the rubber band in your hand you increase what force? **TENSION, COMPRESSION**
16. Friction is the force that _____ motion. It is when two _____ interact with each other. **OPPOSES MOTION, SURFACES**
17. What are the four types of friction? _____ **STATIC, SLIDING, ROLLING, FLUID**
18. A car runs into a wall and stops. Does it stop because of friction with the wall or because the wall is an outside force that stops the car in motion. **THE WALL IS AN OUTSIDE FORCE**
19. What are the only 2 forces acting on an object in freefall? **GRAVITY & AIR RESISTANCE**
20. What is the formula for momentum? **p=MV**
21. What law of motion best explains the Space Shuttle taking off (All 3 explain it, but which is the best)? **3rd LAW**
22. The rocket must have more lift than what force to leave Earth and go into space? **GRAVITY**
23. Inertia is _____ to _____? **RESISTANCE to CHANGE**
24. What is the net force acting on Mr. Smiley Face? Are the forces balanced or unbalanced on him? Which way will Mr. Smiley Face move? (Left, Right, Up, Down) **5 N, UNBALANCED, LEFT**



25. What is the net force acting on Mr. Sun? Are the forces balanced or unbalanced on him? Which way will Mr. Sun move? (Left, Right, Up, Down, Stay Still) **0 (ZERO), BALANCED, STAY STILL**



Bonus: How are **inertia** and **momentum** alike and how do they **differ**? **You can increase both by increasing the mass or velocity. Objects at rest have inertia (resist change or moving), but have ZERO momentum (p=mv if v=0 then p=0).**