

## Question 1

Name and explain the two types of forces.

- ▶ Balanced- Do not change motion.
- ▶ Unbalanced- Will change motion

## Question 2

►State Newton's First Law of Motion.

► An object at rest remains at rest and an object in motion maintains its velocity unless it experiences a net force.

## Question 3

► What are the two main types of friction?

- ▶ Static Friction
- ► Kinetic Friction

## Question 4

- ▶ Provide the units for the items below: They must all be correct to get the point.
  - 1. Force-\_\_\_\_
  - 2. Weight-\_\_\_\_
  - 3. Momentum-
  - 4. Velocity \_\_\_\_\_
  - 5 Free Fall \_\_\_\_\_

- 1. Force-Newtons or  $kg \times m/s^2$
- 2. Weight- Newtons or kg x m/s<sup>2</sup>
- 3. Momentum-kg x m/s
- 4. Velocity m/s
- 5. Free Fall- m/s<sup>2</sup>

## Question 5

► What two things will affect the strength of the force of gravity?

► Mass and Distance

## Question 6

►The gravitational force exerted on an abject is called the object's

# Answer 6 • Weight

# Question 7 ► What is the mass of an object if a force of 34 N produces an acceleration of 4.0 m/s²?

- ▶ m= F/a
- ► m= 34 N/4.0 m/s<sup>2</sup>
- ► m= 8.5 kg

## Question 8

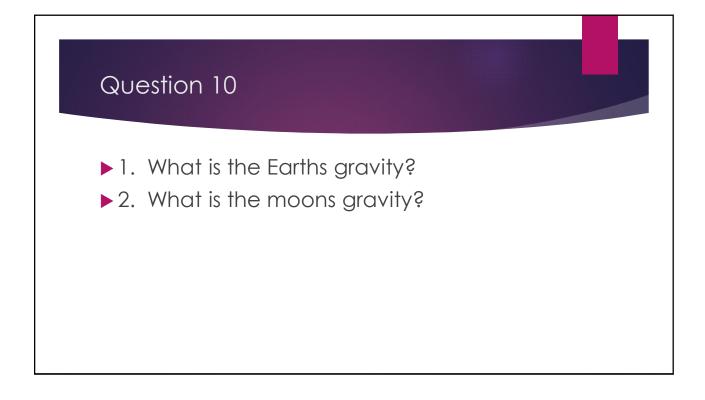
- ▶ 1. Explain the condition needed for free fall to occur.
- ▶ 2. Explain what would happen.

- ▶1. Absence of air
- ▶2. All objects fall at the same speed.

## Question 9

► What is another name for Newton's Third Law of Motion?

## Answer 9 • Action- Reaction



- ▶ 1. 9.8 m/s<sup>2</sup>
- ▶ 2. 1.6 m/s<sup>2</sup> or 1/6 of the Earth's gravity

## Question 11

► What two forces must be equal to reach terminal velocity?

▶ Gravity and air resistance

## Question12

► What is the mass of a person that weighs 560 N?

- ►m = w/g
- $m = 560 \text{ N/(9.8m/s}^2)$
- ▶m= 57 kg

## Question 13

►State Newton's Second Law of Motion

Net force acting on object causes object to accelerate in direction of force

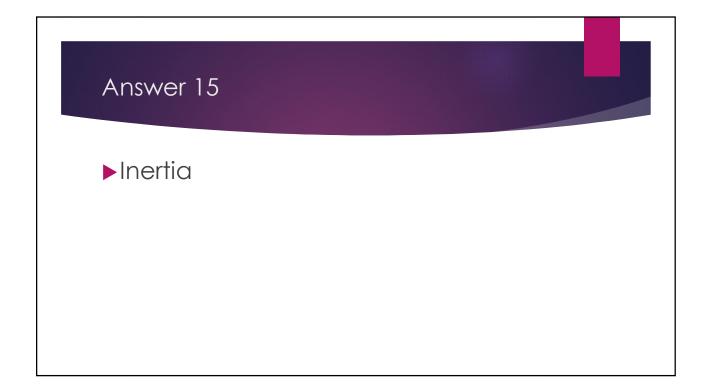
## Question 14

A combination of all forces acting on an object is called \_\_\_\_\_.

►Net Forces

## Question 15

▶The tendency of an object at rest to remain at rest or if moving, to continue moving at a constant velocity is called \_\_\_\_\_\_.

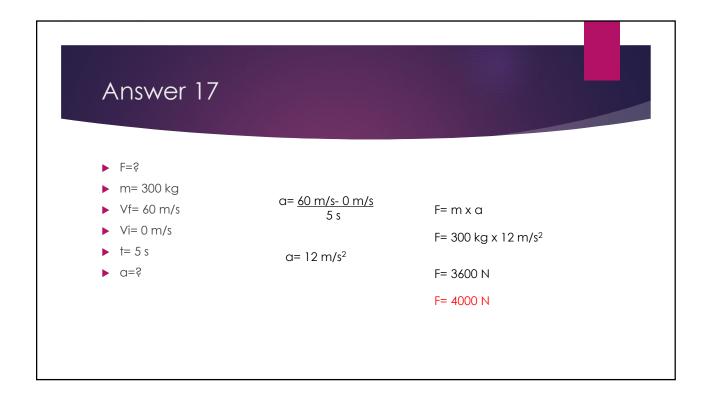


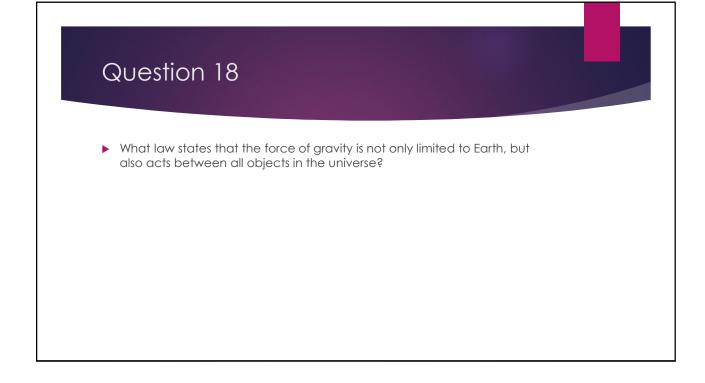
# • When these two motions are combined, they form a curved path. What are they?

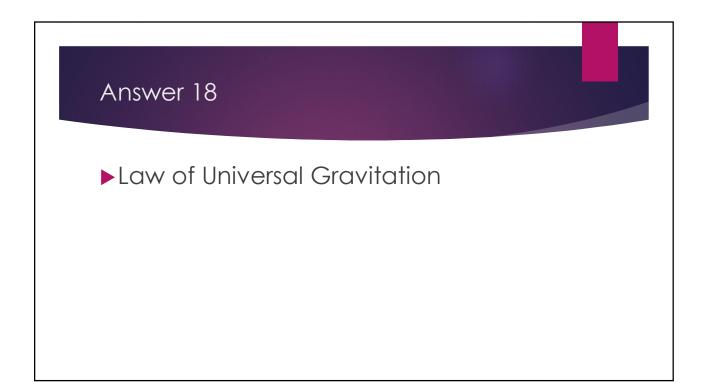
► Horizontal and Vertical Motion

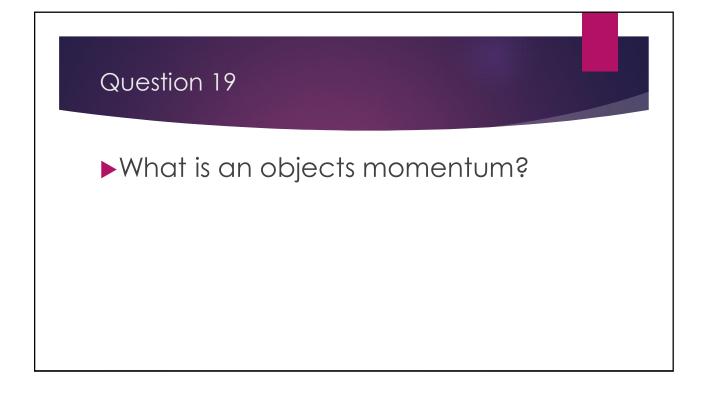
## Question 17

► A racing motorcycle with a mass of 300 kg accelerates from 0 to 60 m/s in 5 seconds. How much force is acting on the motorcycle?









▶ Force need to change an objects motion.