PHYSICS TEST
8TH GRADE
TERM 1 PART 1

School year: 2021-2022	Date:
Name:	

I. Match to complete the sentences.

a) Mass

b) Weight

c) Force

d) Newton

e) Vector

f) Inertia

is the resistance an object has to a change in its state of motion.

is the amount of matter in an object.

is defined as the force of gravity on the object and may be calculated as the mass times the acceleration of gravity, w = mg.

is a quantity that has both magnitude and direction.

is a push or pull upon an object resulting from the object's interaction with another object.

is the amount of force required to give a 1-kg mass an acceleration of 1 m/s^2.

II. Choose the correct answer.

1. The push or pull in an interaction between two or more objects will result in:

a) a change in composition, a change in physical properties

b) a change in motion, a change in direction, a change in matter

c) change of position, place, a change of displacement

d) a change in motion, a change in shape, or a change in direction

2. If an object moves from one place to another, it changes its:

    a) distance   b) speed   c) position   d) velocity

3. _____ means how far an object moves from one point to another point.

    a) distance   b) speed   c) position   d) velocity

4. _____ describes the object's speed and direction of motion.

    a) distance   b) speed   c) position   d) velocity

5. Any change in speed or direction of an object is called.

    a) gravity   b) acceleration   c) changes   d) force

6. The force that helps a boat float on water is:

    a) gravity   b) normal   c) buoyancy   d) drag

7. To have balanced forces in a free body diagram means:

a) net force is equal to zero and the object will remain in equilibrium keeping its state of motion	b) net force is equal to zero and the object will be moving forever	c) net force is equal to zero and the object will remain in permanent resting position	d) net force is different from zero and the object will maintain its state of motion

8. Acceleration is

a) a change in displacement	b) a change in velocity divided by the time it takes	c) a change in speed	d) the way speed is changing speeding up versus slowing down

9. A dog runs 30 km west and then comes back 18 km. The distance traveled is

a) a vector quantity	b) a scalar quantity	c) a negative quantity	d) a quantity in space

10. A car travels 75 miles to the east and then 45 miles to the north. The displacement is

a) a vector quantity	b) a scalar quantity	c) a negative quantity	d) a quantity in space

III.   Write CONTACT or NON CONTACT.

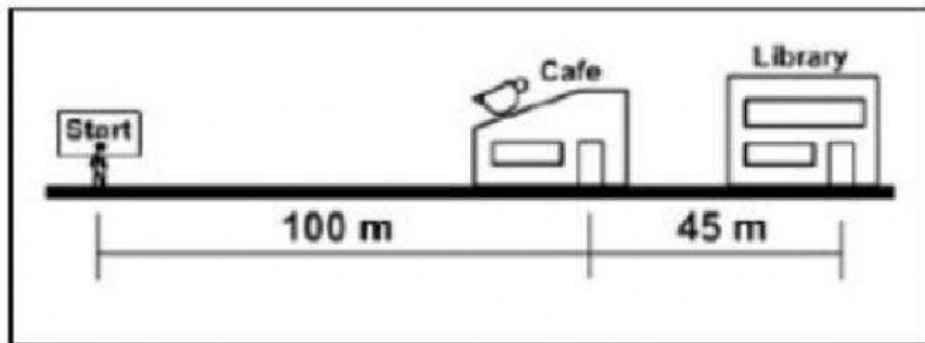|			

IV.   Answer the word problems.

a) A dog walks 50 m east and then 23 m west. What is its distance traveled?

b) A dog walks 50 m east and then 23 m west. What is its displacement?

c) What is the velocity of a plane that travels 5,000 miles north followed by 10,000 miles north in 20 hours?

d) What is the speed of a plane that travels 5,000 miles north followed by 10,000 miles north in 20 hours?
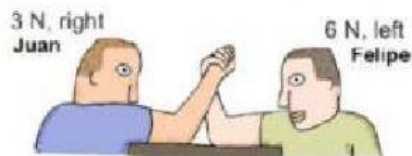
e) Alex, on her lunch break, took 30 minutes to go to the library and then the café. (Look at the picture for measurements).
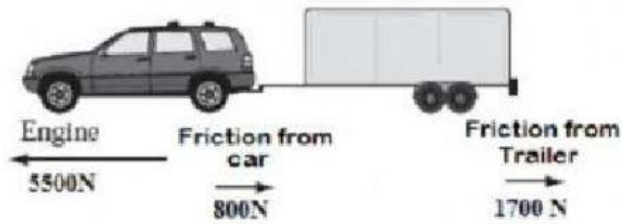

1) What distance did Alex travel during lunch?
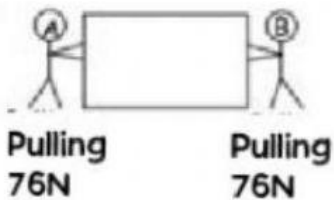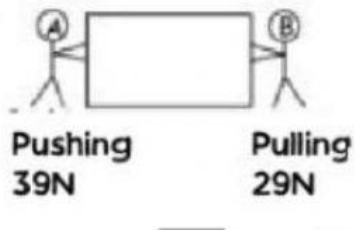
2) What was her displacement?

f) Juan and Felipe are hand wrestling. Who will win? By how much force will he? And in which direction? Show how you got your answer.

g) Clara wants to haul a mobile refrigeration using her car. Does the engine produce enough force to make it move? With what force will it be moving?

Engine
5500N

Friction from car
800N

Friction from Trailer
1700 N

h) Calculate the net forces.

Ⓐ   Ⓑ
Pushing   Pulling
39N   29N

_____

Ⓐ   Ⓑ
Pulling   Pulling
76N   76N

i) What is the net force on the ball and which direction will it roll?

30N West

0N South   0N North

30 East   Net Force = _____