

Name: _____

Assignment Code: _____

Period: _____

FORCES

When you ride a bike, your foot pushes against the pedal. The push makes the wheel of the bike move.

When you drop something, it is pulled to the ground by gravity.

→ A push or a pull is a force.

A good definition for force is a _____ or a _____ in a particular direction. Force is a vector quantity, meaning it has both _____ and _____.

Forces affect how _____ move. They may cause _____; they may also _____, stop or _____ of an object that is already moving.

Forces can affect motion in several ways:

They can make objects start moving	
They can make objects move faster	
They can make objects move slower	
They can make objects stop moving	
They can make objects change direction	
They can make objects change shape	

Forces cause changes in the _____ or _____ of an object.



Forces cause changes in _____.

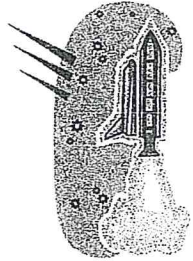
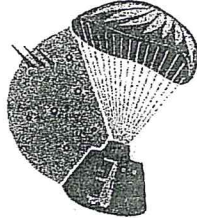


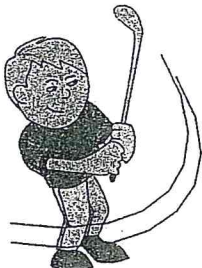


Forces cause _____.

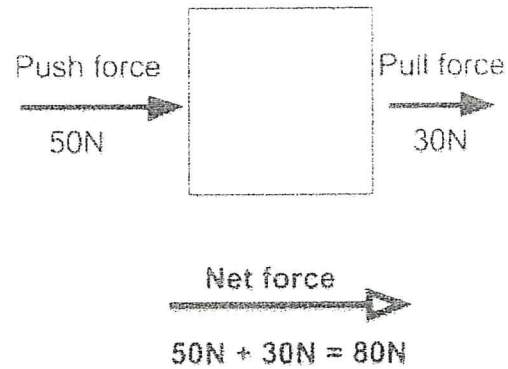
FORCE FACTS:

- Forces are measured in _____ (N).
- Forces usually act in pairs.
- Forces act in a particular direction
- Forces usually cannot be seen, but their effects can.

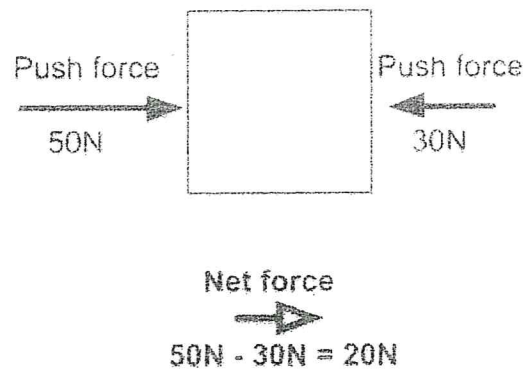
Label the force in each picture as a push or pull. Then describe whether the force is causing a change in speed or direction or both.

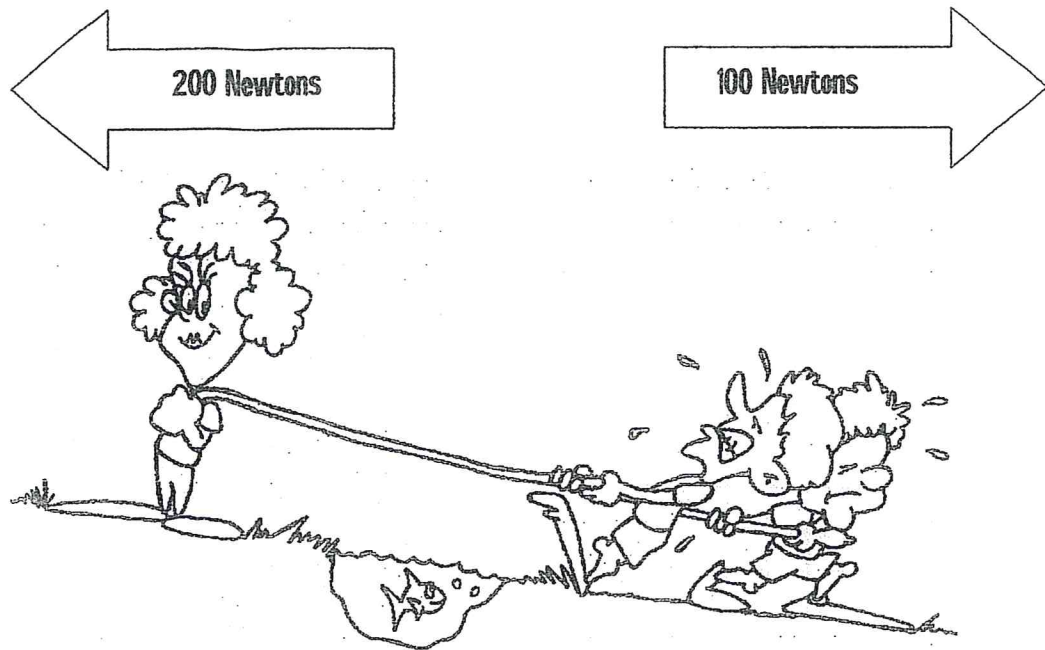
When two forces act in the same direction on an object, the net force is equal to the _____ of the two forces.



When two unequal forces act in opposite directions on an object, the net force is the _____ of the two forces.

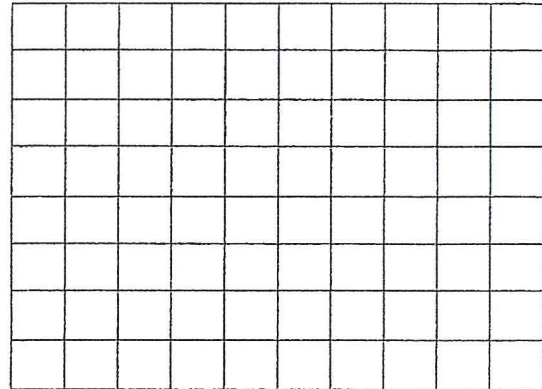
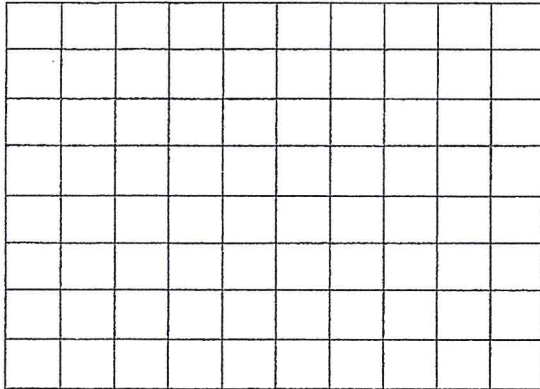


The final force and its direction is called a **resultant**, or **net force**.



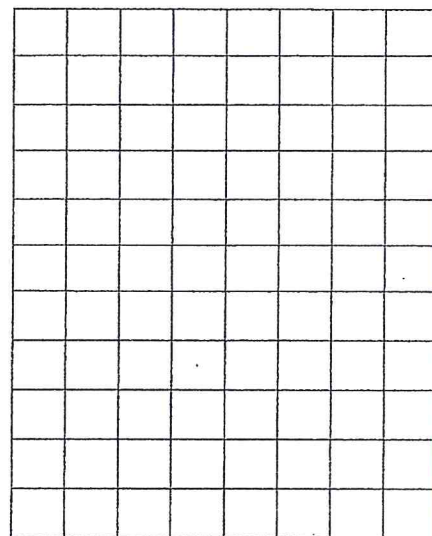
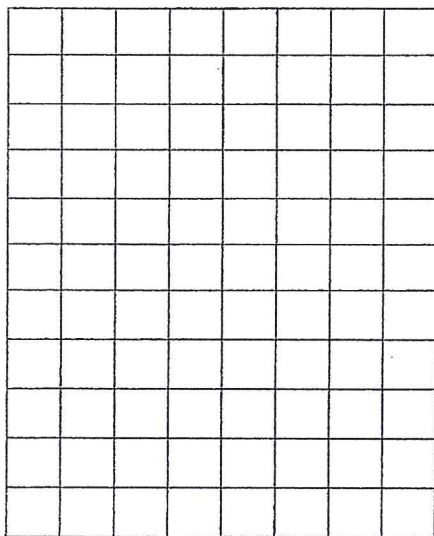
7. The forces shown above are PUSHING / PULLING forces.
8. The forces shown above are WORKING TOGETHER / OPPOSITE FORCES.
9. The forces are EQUAL / NOT EQUAL.
10. The forces DO / DO NOT balance each other.
11. The stronger force is pulling to the RIGHT / LEFT.
12. The weaker force is pulling to the RIGHT / LEFT.
13. Motion is to the RIGHT / LEFT.

Draw each vector on the chart below. Start at the dot. Each square represents one n of force.



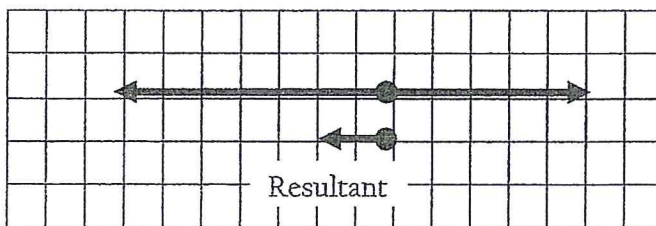
7 n force to the right

5 n force to the left



10 n upward force

3 n downward force



The figure to the left shows two opposite forces.

There is a 5 kg force to the right and a 7 n force to the left. Subtract 5 from 7.

The resultant is a 2 n force to the left.

The resultant vector is shown