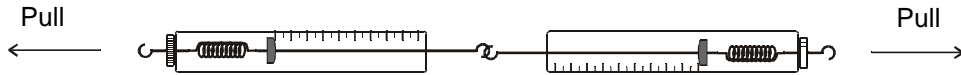


## Forces

A dynamometer is an instrument for measuring the strength of a force. A dynamometer is also called a \_\_\_\_\_.

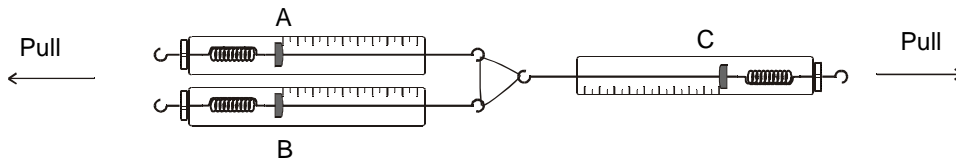
*Before starting your observations, make sure that your dynamometers read zero.*

1.



- a) Pull two 5N dynamometers as shown in the diagram above.  
Do they give the same reading ? YES / NO
- b) Try the same thing using one 10N dynamometer and one 5N dynamometer.  
Do they give the same reading ? YES / NO
- c) Try the same thing again with two 5N dynamometers but this time holding them vertically.  
Do they give the same reading ? YES / NO

2.

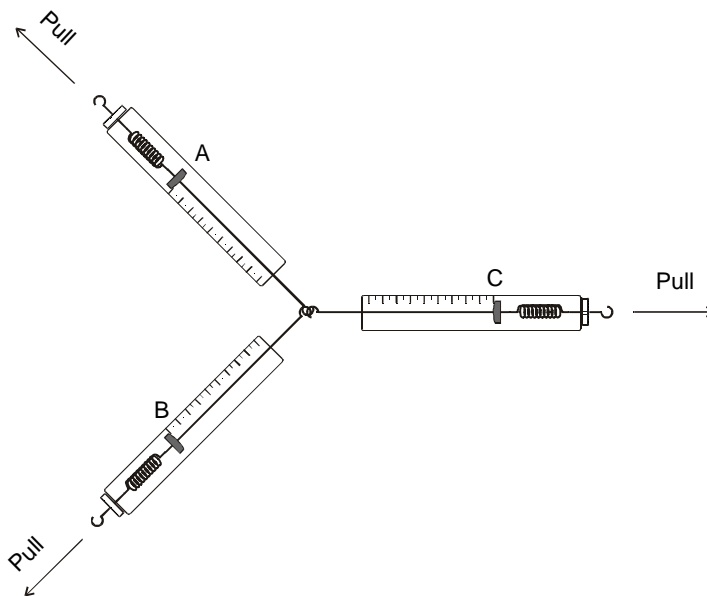


Compare the readings of three dynamometers A, B and C holding A and B parallel to each other as shown above.

Conclusion

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3.



Does the conclusion of part 2 still apply when A and B are not parallel ? YES / NO

## Measuring the force of Gravity acting on different masses

The mass of an object is a measure of the \_\_\_\_\_

The force due to gravity acting on an object is called its \_\_\_\_\_

Hang a 1N dynamometer on a stand and use it to measure the force of gravity acting on a range of different masses (change to a 5N dynamometer when necessary). Complete the table below.

Mass /g	Mass /kg	Force due to gravity /N
10		
50		
100		
150		
200		
300		
400		
450		

### Conclusion

The strength of the force due to gravity acting on an object is given (approximately) by:

Force due to gravity (in Newtons) = \_\_\_\_\_

The force due to gravity acting on an object is *not* the same everywhere.

Factors which affect the weight of an object are:

i) \_\_\_\_\_

ii) \_\_\_\_\_

Also, if an object is taken to the moon, its \_\_\_\_\_ will stay the same but its \_\_\_\_\_ will be about \_\_\_\_\_ than on the earth because \_\_\_\_\_

\_\_\_\_\_