



Unit 4\_Newtons Laws Complete Work Packet 2019 REMO...

Name \_\_\_\_\_  
Unit 4: Forces and Newton's Laws of Motion

Regents Physics  
Mr. Mellon

Unit 4: Forces and Newton's Laws of Motion  
Work Packet

1. Base your answer to the following question on the information below.

A stream is 30. meters wide and its current flows southward at 1.5 meters per second. A toy boat is launched with a velocity of 2.0 meters per second eastward from the west bank of the stream.

What is the magnitude of the boat's resultant velocity as it crosses the stream?

- 1) 0.5 m/s                      3) 3.0 m/s  
2) 2.5 m/s                      4) 3.5 m/s

2. A child walks 5.0 meters north, then 4.0 meters east, and finally 2.0 meters south. What is the magnitude of the resultant displacement of the child after the entire walk?

- 1) 1.0 m                      3) 3.0 m  
2) 5.0 m                      4) 11.0 m

3. As the angle between two concurrent forces decreases, the magnitude of the force required to produce equilibrium

- 1) decreases                      3) remains the same  
2) increases                      4) increases

4. Note that the following question has only three choices.

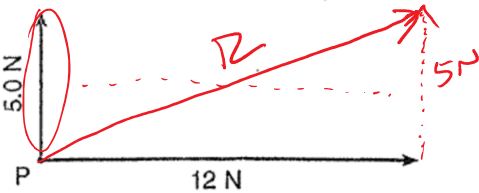
A 6.0-newton force and an 8.0-newton force act concurrently on a point. As the angle between these forces increases from 0° to 90°, the magnitude of their resultant

- 1) decreases                      3) remains the same  
2) increases                      4) increases

5. A 5.0-newton force and a 7.0-newton force act concurrently on a point. As the angle between the forces is increased from 0° to 180°, the magnitude of the resultant of the two forces changes from

- 1) 0.0 N to 12.0 N                      3) 12.0 N to 2.0 N  
2) 2.0 N to 12.0 N                      4) 12.0 N to 0.0 N

6. The diagram below represents a 5.0-newton force and a 12-newton force acting on point P.



The resultant of the two forces has a magnitude of

- 1) 5.0 N                      3) 12 N  
2) 7.0 N                      4) 13 N

7. The diagram below shows a resultant vector, R.



Which diagram best represents a pair of component vectors, A and B, that would combine to form resultant vector R?

- 1) 2) 3) 4)

8. A 3-newton force and a 4-newton force are acting concurrently on a point. Which force could not produce equilibrium with these two forces?

- 1) 1 N                      3) 9 N  
2) 7 N                      4) 4 N

9. The diagram below represents a force vector, A and resultant vector, R.



Which force vector B below could be added to force vector A to produce resultant vector, R.

- 1) 2) 3) 4)