

Chapter 3: Vectors

PRINT Name _____ Period _____

You may write on this paper and on the back.

All work MUST be done in INK. All Questions MUST be answered in complete sentences. Problems are to be solved by "Showing The Method": The Hup, Two, Three, Four. Be sure to PRINT your Name, the Period, and the Assignment on your papers.

1. Discuss the differences between Scalars and Vectors. Give an example of each. What MUST a vector have to be a vector?

For all Vector problems: Select a Scale, Label the Sides, Make a Parallelogram, Draw the Resultant vector, Be SURE Arrowheads are present.

2. Graphically solve: Find the Resultant of 20 m/s Northward and 10 m/s Eastward. Remember the Arrow Heads!
3. Graphically solve: Find the Resultant of 15 m/s Southward and 25 m/s Southwest. Remember the Arrow Heads!
4. Graphically and Trigonometrically solve: 50 m/s Northward and 100 m/s Eastward. Remember Arrow Heads! Ans: 111 m/s at 27° .
5. Explain what causes a Trajectory. (Two Vectors). Why does it have a parabolic shape?
6. Discuss Relative Motion in terms of Vectors.
7. Scaling Laws: Explain why King Kong would not be able to support himself standing up.
8. In the *NFL Passing Vectors* Video Clip, explain how Vectors are used.
9. In the *Bullet Drop Experiment* Video Clip, explain what The Mythbusters proved using vectors.
10. Describe an experiment proving that the vectors of trajectories are independent.