

Physics

name _____ period _____

Inv-3 Expan IB Vector Construction

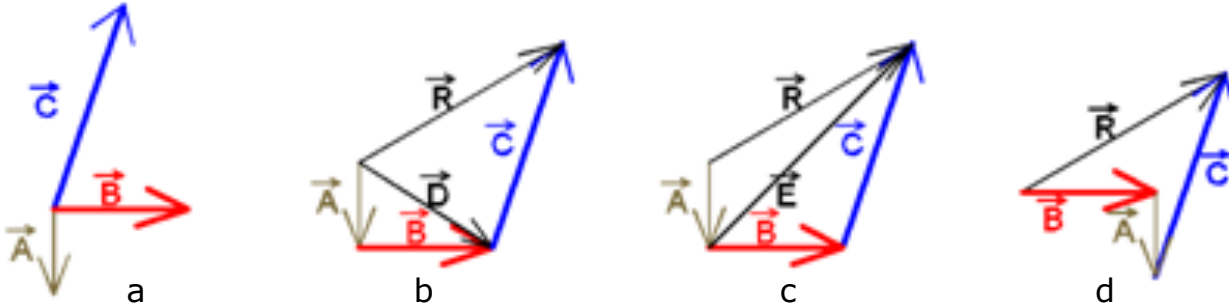
sheet # _____ due date _____

Introduction:

On this sheet we are going to learn more about adding vectors by the construction method, then I am going to prepare you to go out to the west lawn, determine your pace, and do a little orienteering work (which may just save your life one day).

Vector Construction:

1.) Starting with the three vectors in figure a, write all the vector addition equations that go with figures b, c and d.



Write three vector addition equations for figure b:

1st one: (example) $\mathbf{D} + \mathbf{C} = \mathbf{R}$ 2nd one: _____ 3rd one: _____

Write three vector addition equations for figure c:

1st one: _____ 2nd one: _____ 3rd one: _____

Write the vector addition equations for figure d: _____

Write three vector subtraction equations for figure b:

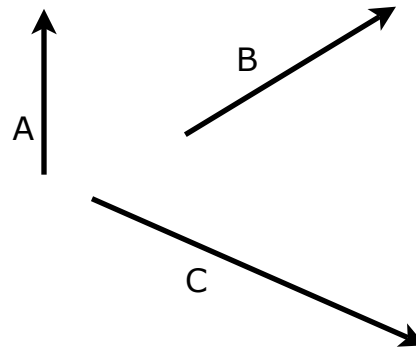
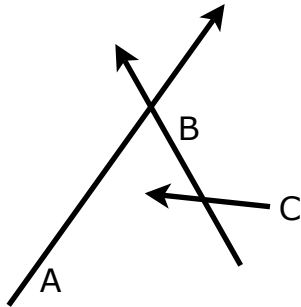
1st one: (example) $\mathbf{D} - \mathbf{B} = \mathbf{A}$ 2nd one: _____ 3rd one: _____

Write three vector subtraction equations for figure c:

1st one: _____ 2nd one: _____ 3rd one: _____

2.) Now we will add and subtract a few vectors whose magnitudes are modified Draw the resultant R in a different color and properly describe it. Remember R goes from 1st tail to last head:

a.) Map view $R_1 = (\frac{3}{4}A - 2B + 3C)$ m b.) Profile view $R_2 = (-3A + \frac{2}{3}B - \frac{1}{2}C)$ m/s



R₁: _____ @ _____
scale: 1 cm = 2 m/s

R₂: _____ @ _____
scale: 1 cm = 4 N

