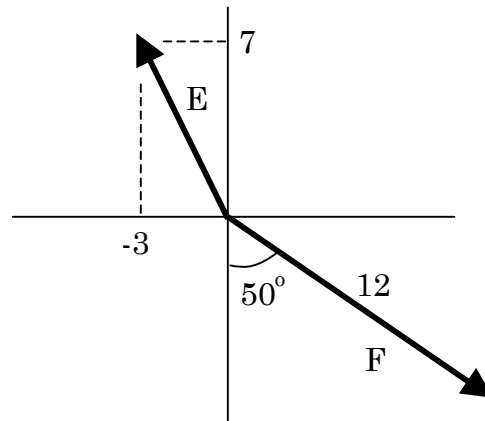


You will find the following questions—different numbers, etc., but the same questions—on your next test. I'd suggest that at some point in time you make sure you know the ins-and-outs of all the operations requested.

Consider the vectors shown below:



$$\vec{A} = -24\hat{i} + 16\hat{j}$$

$$\vec{B} = -6\hat{i} - 11\hat{j}$$

$$\vec{C} = 8 \angle 110^\circ$$

$$\vec{D} = 15 \angle -40^\circ$$

- 1.) Graph vector A (you'd be given a grid).
- 2.) Graph vector B (again, a grid).
- 3.) Characterize vector E in terms of unit notation.
- 4.) Characterize vector F in terms of polar notation.
- 5.) Add vectors E and F graphically.
- 6.) Subtract vector F from vector E graphically.
- 7.) Determine  $B - A$ .
- 8.) You can not *easily* determine  $C - D$  using math. Why not?
- 9.) Create a third-quadrant vector on a grid (any vector will do), estimate its x and y components and characterize it in unit vector notation.
- 10.) Create a third-quadrant vector on a grid, determine its magnitude and angle and characterize it in polar notation.
- 11.) Explain what  $\vec{A} = -24\hat{i} + 16\hat{j} + 7\hat{k}$  is. (answer: it's the vector sum of a vector in the x-direction plus the a vector in the y-direction . . . etc.)
- 12.) Determine  $1/3B$ .
- 13.) Determine  $-4A$ .
- 14.) Determine  $1/3C$ .
- 15.) Determine  $-4D$ .
- 16.) Convert A to polar notation.
- 17.) Convert C to unit vector notation.
- 18.) Smile, life could be worse!