**Activity 8.2.5 Multiplying Vectors by Scalars**

Looking at the previous activity we see that . We find by multiplying the components of the vector by .

The same idea can be used to find a vector , see below.

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It is natural to create scalar multiples of vectors in this manner and to define

and . Similarly, for any scalar *k*, =

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1. Label the coordinate system above with a scale and determine the ordered pair notation for .
2. Determine the ordered pair notation for and draw and label the vector on the coordinate system.
3. Using both arrows and ordered pairs, find and verify that this is the same vector as and .
4. If = (0, 3) and = (5,0) then find + .
5. If = (1, -2) and = (4, -5) then find + 4 .

2. show that