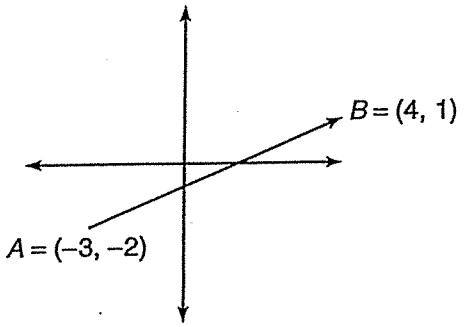
# Unit 1 1.5 AP Calculus BC

Name:_____

## Vectors Review

**Example 21:** Put vector $\overrightarrow{AB}$ (as defined above) in standard position, and then write in unit vector form.




**Example 22:** If vector **v** has initial point (–2,6) and terminal point (1,–5), complete the following:

(a) Find $||\mathbf{v}||$.

(b) Write **v** in unit vector form.

**Example 23:** Graph the vector curve $\mathbf{r}(t) = (t+1)\mathbf{i} + t3\mathbf{j}$, and write the equation in rectangular form.

## PROBLEM SET

For numbers 1 through 3, $\mathbf{v} = \langle 2,3 \rangle$, $\mathbf{w}$ has initial point $(3,-3)$ and terminal point $(-1,4)$, and $\mathbf{p} = 2\mathbf{v} - \mathbf{w}$.

1. Express $\mathbf{p}$ in component form.
2. Find $\|\mathbf{p}\|$.
3. What is the unit vector form of $\mathbf{p}$?

4. Given vectors $\mathbf{r}(t) = e^t\mathbf{i} + (2e^t + 1)\mathbf{j}$ and $\mathbf{s}(t) = t\mathbf{i} + (2t + 1)\mathbf{j}$, explain why $\mathbf{r}$ and $\mathbf{s}$ have the same rectangular form but different graphs.