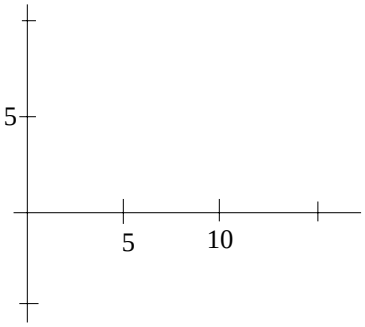
Math 120

November 18, 2003 Name _____

Show your work. Quiz #6 A (please print)

1. $P = \langle 8, 6 \rangle$ and $Q = \langle 12, -5 \rangle$



(2) (a) Sketch and label P and Q

(1) (b) $2Q - 3P = \langle \_\_\_\_\_ , \_\_\_\_\_ \rangle$

(2) (c) $P \bullet Q =$ _____

(2) (d) angle between P and Q is _____

(2) (e) angle P makes with the x–axis is _____

(2) (f) Find a vector C so has the same direction as P and $\| C \| = 3$: $C = \langle \_\_\_\_\_ , \_\_\_\_\_ \rangle$

(2) (g) Find a vector D so D is orthogonal to Q: $D = \langle \_\_\_\_\_ , \_\_\_\_\_ \rangle$

2. A plane is flying at 420 miles per hour at a bearing of N 40° W. Write this information as a vector in component form. $\langle \_\_\_\_\_ , \_\_\_\_\_ \rangle$

(4)

3. Vectors U and V are given in the Fig. 3. Sketch and label $C = A - 2B$.

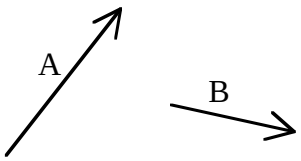


Fig. 3

(2)

4. Vectors R, S and T are given in the Fig. 4. Sketch a vector W so R, S, T and W are in equilibrium.

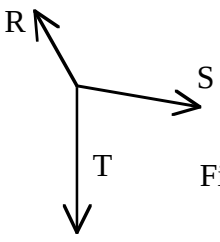


Fig. 4

(2)