

Math 120
 Feb. 2, 2005
 Quiz #5 AM

Name _____
 (please print)

Show your work.

1. $P = \langle 6, -8 \rangle$ and $Q = \langle 10, 4 \rangle$

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

(1) (b) $\|P\| =$ _____

(2) (c) **unit vector** in the direction of P is $\langle \text{____}, \text{____} \rangle$

(2) (d) $P \cdot Q =$ _____

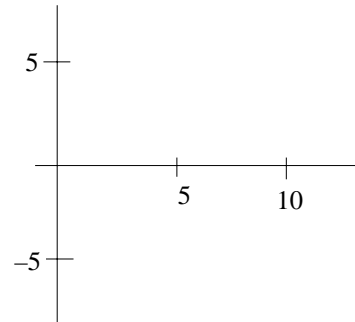
(2) (e) angle between P and Q is _____

(2) (f) angle P makes with the x-axis is _____

(2) (g) Find a vector C so has the same direction as P

and $\|C\| = 13$: $C = \langle \text{____}, \text{____} \rangle$

(2) (h) $\text{Proj}_Q P =$



2. If $U \cdot V = 7$, $\|U\| = 8$, and $\|V\| = 3$, then the angle between U and V is $\theta =$ _____

(1)

3. A plane is flying at 300 miles per hour at a bearing of N 32° E. Write this information as a vector in component form. Plane = $\langle \text{____}, \text{____} \rangle$

(3)

4. Vectors A, B and C are given in the Fig. 2.

Sketch and label $D = A + B - C$.

(2)

