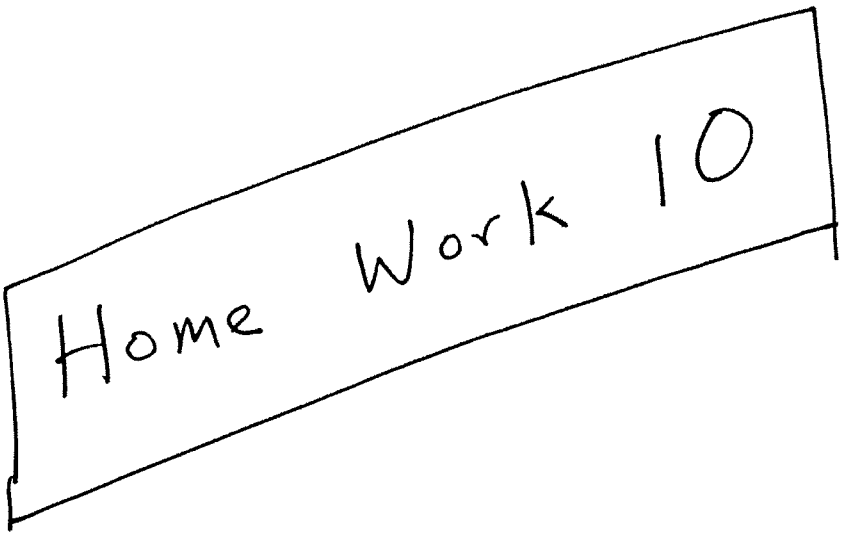

Home Work 10

① Find a unit vector in the same direction as the following vectors:

(a) $(1 \quad -1 \quad 1)$

(b) $(2 \quad 5)$

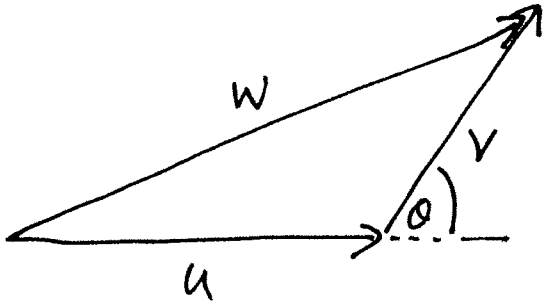
(c) $(3 \quad 6 \quad 7)$

② Find a unit vector in the opposite direction as the vectors in problem 1.

③ Calculate the magnitude of the vectors in problem 1.

④ Calculate the angle between the two vectors (a) and (c) in problem 1.

⑤



Let u, v, w be three vectors as shown. We are given that

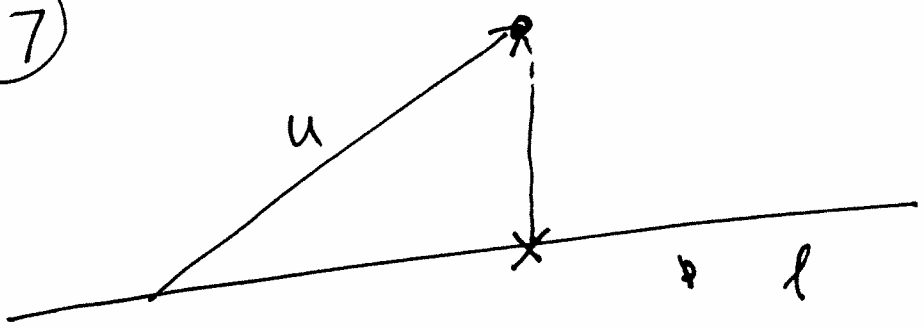
$\|u\| = 8$, $\|v\| = 11$

$\|w\| = 15$.

Calculate the angle θ from this data.

(6) Calculate the equation of the line that is perpendicular to the vector $(7 \quad 9)$ and passes through the point $(-1, -3)$.

(7)



Using vectors, find the point closest to the point $(3 \quad 5)$ on the line l given by [redacted] $5x + 8y = 0$

(8) Write down all the unit vectors perpendicular to the vector

$(13 \quad 27)$.