

WORKSHEET FOR 4/13/2009

Reading assignment. Review section V.1

Homework due Monday. V.1: 3, 8, 9, 10, 21, 23, 31, 36

**Exercises:**

- (1) Compute the following:
  - (a)  $2 \cdot (1, 3)$
  - (b)  $(2, 2) + (4, 3)$
  - (c)  $|(3, 4)|$
- (2) Draw a picture including the following vectors:  $2 \cdot (1, 3)$ ,  $(3, 4) - (5, 6)$ ,  $-(1, 3)$ .
- (3) Let  $\mathbf{f}(t) = (\cos(2t), \sin(2t))$ .
  - (a) Graph  $(x, y) = \mathbf{f}(t)$  for  $t$  in  $[0, \pi]$ , and (in a separate graph) for  $t$  in  $[\pi/4, \pi/2]$ .
  - (b) Calculate  $\mathbf{f}'(t)$ . Calculate the velocity vector at  $t = 3\pi/4$ , and draw the corresponding velocity vector on the first graph from part (a).