Álgebra Linear: Lista de Vetores

Prof: Felipe Figueiredo
http://sites.google.com/site/proffelipefigueiredo

1. Calcule a norma dos seguintes vetores
   (a) $(0, 1)$
   (b) $(2, 0)$
   (c) $(1, 2)$
   (d) $(3, -2)$
   (e) $(\sqrt{2}, \sqrt{2})$
   (f) $(\frac{\sqrt{3}}{2}, \frac{1}{2})$
   (g) $(0, 0)$
   (h) $(1, 0, -1)$
   (i) $(2, -\frac{1}{2}, 1)$
2. Calcule o produto escalar dos seguintes pares de vetores
   (a) $(1, 1)$ e $(-1, 2)$
   (b) $(3, 2)$ e $(2, -3)$
   (c) $(-1, -2)$ e $(4, -6)$
   (d) $(4, -6)$ e $(-1, -2)$
   (e) $(\sqrt{2}, \sqrt{2})$ e $(\sqrt{2}, \sqrt{2})$
   (f) $(\sqrt{2}, 2)$ e $(2\sqrt{3}, \frac{1}{2})$
   (g) $(-15, \sqrt{2})$ e $(0, 0)$
   (h) $(1, -1, 2)$ e $(2, 2, -1)$
   (i) $(\sqrt{2}, 1, 0)$ e $(-1, \sqrt{3}, \sqrt{17})$
3. Esboce os vetores abaixo e calcule as projeções ortogonais pedidas
   (a) $u = (1, 1)$ calcule P^u_{OX}
   (b) $u = (2, 3)$ calcule P^u_{OY}
   (c) $u = (-1, 3)$, $v = (1, 1)$ calcule P^u_v
   (d) $u = (-2, 1)$, $v = (-1, -2)$ calcule P^v_u
   (e) $u = (2, 5)$, $v = (6, 15)$ calcule P^u_v
   (f) $u = (\sqrt{2}, -\sqrt{3})$, $v = (2, -3)$ calcule P^v_u
   (g) $u = (1, 2, -1)$, $v = (0, -1, 2)$ calcule P^u_v
   (h) $u = (1, 2, -1)$, $v = (0, -1, 2)$ calcule P^v_u