

Worksheet 4 $\frac{1}{e}$
HOMEWORK OF 2012-02-12
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1. Prove the following claims (all are board - worthy (*)):
 - (1) Theorem 3 of Handout 0.1 of Math 302 (Theorem 3 of Handout 5 of Math 301)
 - (2) Theorem 4 of Handout 0.1 of Math 302 (Theorem 4 of Handout 5 of Math 301)
 - (3) Theorem 11 of Handout 0.1 of Math 302 (Theorem 11 of Handout 5 of Math 301)
 - (4) Theorem 12 of Handout 0.1 of Math 302 (Theorem 12 of Handout 5 of Math 301)
 - (5) Theorem 13 of Handout 0.1 of Math 302 (Theorem 13 of Handout 5 of Math 301)
 - (6) Theorem 14 of Handout 0.1 of Math 302 (Theorem 14 of Handout 5 of Math 301)
 - (7) Theorem 15 of Handout 0.1 of Math 302 (Theorem 15 of Handout 5 of Math 301)
 - (8) Theorem 16 of Handout 0.1 of Math 302 (Theorem 16 of Handout 5 of Math 301)
 - (9) Theorem 17 of Handout 0.1 of Math 302 (Theorem 17 of Handout 5 of Math 301)
 - (10) Theorem 18 of Handout 0.1 of Math 302 (Theorem 18 of Handout 5 of Math 301)

2. Let $X, Y \sim Dir((x, y), \alpha, \beta, \delta)$.
 - A. Graph it using Maple or Mathematica for $\alpha = 1, \beta = 2, \delta = 3$.
 - B. Graph it using Maple or Mathematica for $\alpha = 4, \beta = 2, \delta = 3$.
 - C. Graph it using Maple or Mathematica for $\alpha = 1, \beta = 5, \delta = 2$.
 - D. Graph it using Maple or Mathematica for $\alpha = 1, \beta = 5, \delta = 8$.

That is all.