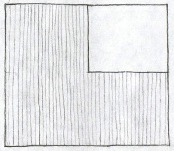
Sarah Ford

**2)** \*\* In the figures below, shaded areas indicate the probabilities \*\*

**a.**

P(value on at least one of the spinners is less than ½) = ¾ = 75%

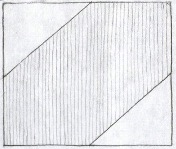
(0,1) (1,1)

(0,0)(1,0)

**b.**

P(values on two spinners are within ½ of each other) = ¾ = 75%

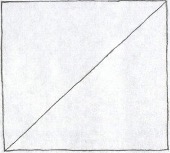
(0,1) (1,1)

(0,0) (1,0)

**c.**

P(values on two spinners are equal) = 0%

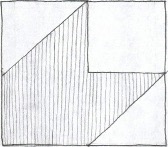
(0,1) (1,1)

(0,0)  (1,0)

**d.**

P(at least one value is less than ½ and both are within ½ of each other) = ½ = 50%

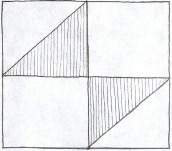
(0,1) (1,1)

(0,0)  (1,0)

**e.**

P(able to make a triangle) = ¼ = 25%

(0,1) (1,1)

(0,0)  (1,0)

**3)**

**a.**

The value at x = 0 is 2 because the area underneath the graph must be 1. Therefore, we solve the equation , where y is the height of the graph, and we find y = 2 at x = 0.

**b.**

The slope of the PDF line is -2x + 2, so we solve

and find that the probability that a dart lands within 1 inch (1/12 of a foot) is equal to 15.97%

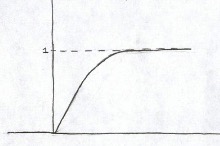
**c.**

Given the slope of the dartboard PDF line is -2x+2, we solve

and find that the distance x within which approximately half the darts fall is about 0.29 feet.

**d.**

The formula for the CDF is:



**e.**

**Extra Credit 4.1**

, ,

All three lengths must be less than ½ in order to form a triangle, yielding:

and

In order to find the area bound by these inequalities within our 1x1 box, we take: