Rectangle sampling activity

HON Stat 251

Random Rectangles Activity

(1) Judgment sample: I chose rectangles 5, 22, 30, 31, and 72 that each have areas (respectively): 9, 10, 6, 4, and 2

(2) My rectangles each have areas (respectively): 9, 10, 6, 4, and 2

(3)

$$\overline{X} = \frac{9 + 10 + 6 + 4 + 2}{5} = 6.2$$

$$s = \sqrt{\frac{\sum (x - \overline{x})^2}{n - 1}} = 3.3466401$$

(4) Random sample:

```
64040 59273 41296 18772 26789 49382 47086 40409 99878 71528 72020 15949 73592 80317 56635
10402 78203 31771 73510 16228
```

Following the numbers 2 digits at a time, starting on the first line of my RNG, my sample is:
64,04,05,92,73, with areas 9, 25, 9, 1, and 2

(5) Repeat steps 2 and 3 with the random sample of rectangles (so that you have one judgment sample and one random sample of 5 each)

$$\overline{X} = \frac{9 + 25 + 9 + 1 + 2}{5} = 9.2$$

$$s = \sqrt{\frac{\sum (x - \overline{x})^2}{n - 1}} = 9.6020831$$