

Math 308 Exercises 2.8

Nakul Joshi

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b)

$$\bar{x} = 6.5$$

$$m = 5.5$$

$$\tilde{x} = 2.389726$$

$$\tilde{m} = 2.342779$$

$$f(\bar{x}) \neq \tilde{x}$$

$$f(m) \neq \tilde{m}$$

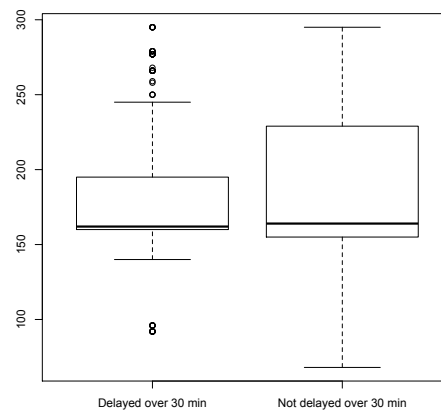
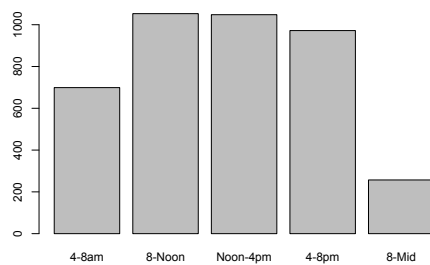
| | No | Yes | Proportion |
|-----|-----|-----|------------|
| Mon | 569 | 61 | 0.09682540 |
| Tue | 535 | 93 | 0.14808917 |
| Wed | 488 | 76 | 0.13475177 |
| Thu | 434 | 132 | 0.23321555 |
| Fri | 493 | 144 | 0.22605965 |
| Sat | 406 | 47 | 0.10375276 |
| Sun | 507 | 44 | 0.07985481 |

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a)

| | | | | |
|-------|--------|----------|-------|-------|
| 4-8am | 8-Noon | Noon-4pm | 4-8pm | 8-Mid |
| 699 | 1053 | 1048 | 972 | 257 |

c)



d)

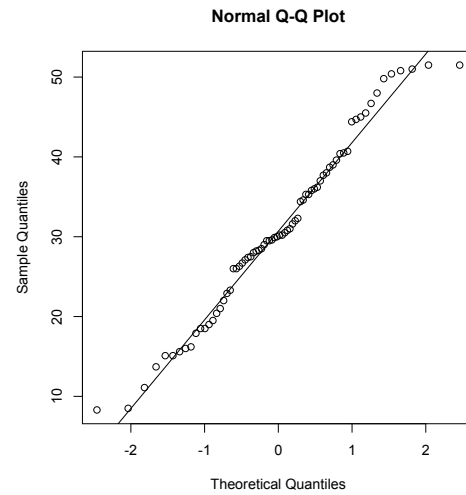
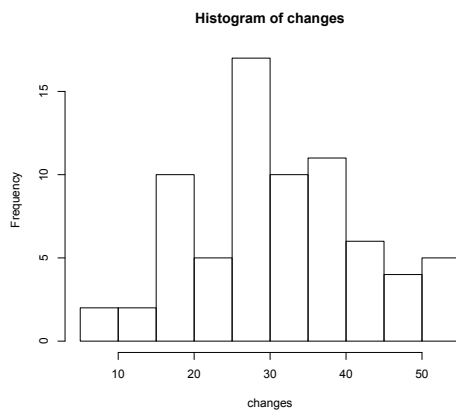
There appears to be no relationship.

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a)

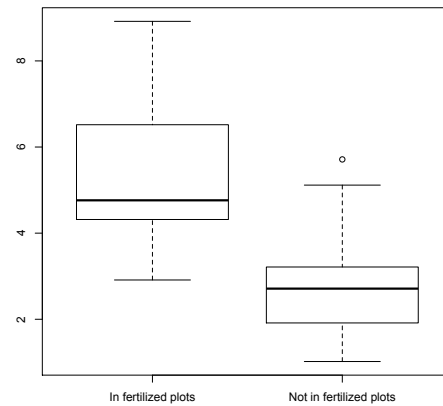
| Min. | 1st Qu. | Median | Mean | 3rd Qu. | Max. |
|------|---------|--------|-------|---------|-------|
| 8.30 | 23.20 | 30.10 | 30.93 | 38.17 | 51.50 |

b)



The distribution is approximately normal as shown by the close fit between the normal and theoretical quantiles.

c)



d)

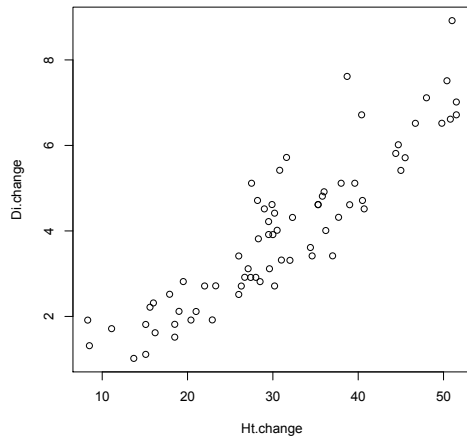
| Min. | 1st Qu. | Median | Mean | 3rd Qu. | Max. |
|-------|---------|--------|-------|---------|-------|
| 2.912 | 4.318 | 4.762 | 5.274 | 6.518 | 8.919 |

Table 1: Summary of F

| Min. | 1st Qu. | Median | Mean | 3rd Qu. | Max. |
|-------|---------|--------|-------|---------|-------|
| 1.019 | 1.915 | 2.712 | 2.718 | 3.165 | 5.712 |

Table 2: Summary of NF

e)



The diameter changes roughly increase with the height changes.