

1. Population: all law firms in US
 Sample: 55 law firms in US
 \$405 is statistic (only from sample, not whole population)

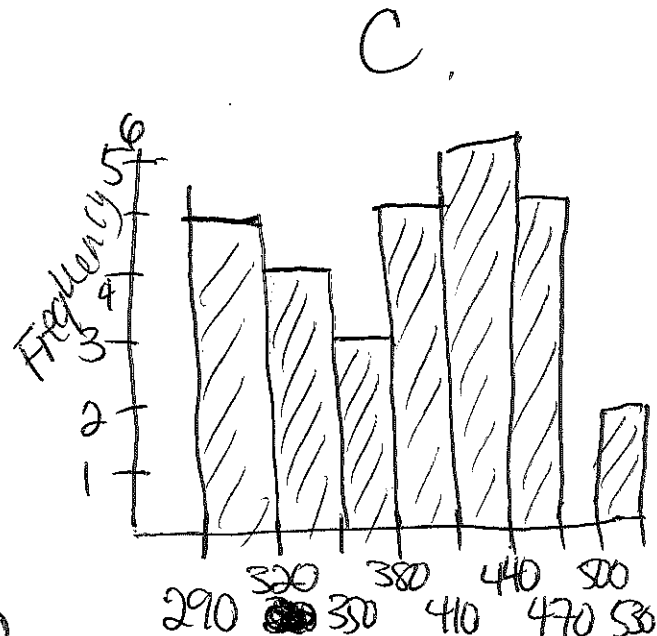
2. A. type of case: qualitative
 amount spent: quantitative

B. bar chart

3. A. $514 - 291 = \boxed{223}$

B. 8 classes - use class width 30 since $223/8 = 27.875$

Reaction Time	Frequency
### 290	5
● ### 320	4
350	3
### 380	5
1 ### 410	5 6
### 440	5
470	0
500-529	2
	27 30



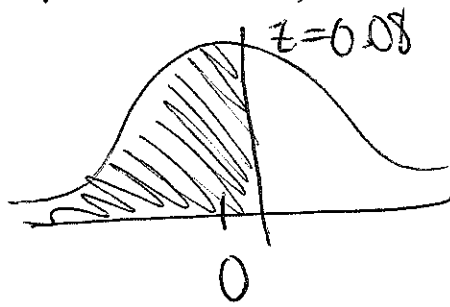
3 D.

Class Midpoint	Frequency	$m \cdot f$
305	5	1525
335	4	1340
365	3	1095
395	5	1975
425	6	2550
455	5	2275
485	0	0
515	2	1030
	sum = 30	sum = 11790

$$\bar{X} \approx \frac{11790}{30} = \boxed{393}$$

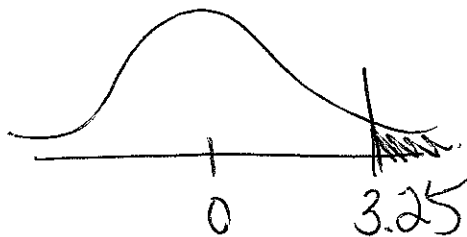
E. Bimodal, skewed right

4. A



from z-table: $\boxed{0.5319}$

B.



from z-table: 0.9994

$$1 - 0.9994 = \boxed{0.0006}$$

C.



$z=1.5$ from table: 0.9332
 $z=-0.5$ from table: 0.3085

$$\boxed{0.6247}$$

5. retrospective observational study

6. A. 1.0

B. $\frac{\sum x}{n} = \frac{29.9}{12} =$ ~~2.49~~ $\boxed{2.49}$

C. $\frac{2.3+2.4}{2} = \frac{4.7}{2} = \boxed{2.35}$

D.

x	$x - \bar{x}$	$(x - \bar{x})^2$
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0.8	-1.69	2.8561
1.5	-0.99	0.9801
1.6	-0.89	0.7921
1.8	-0.69	0.4761
2.1	-0.39	0.1521
2.3	-0.19	0.0361
2.4	-0.09	0.0081
2.5	0.01	0.0001
3.0	0.51	0.2601
3.9	1.41	1.9881
4.0	1.51	2.2801
4.0	1.51	2.2801

(Don't do this by hand!
use your calculator!)



$12.1092 \text{ sum } \div 11 = 1.1008$

$\text{sqrt} = \boxed{1.0492}$

E. unimodal, skewed right, no outliers

7. 19 20 20 21 21 21 22 22 22
 22 ~~23~~ 23 23 23 24 24 25 25
 25 29

A. Min 19

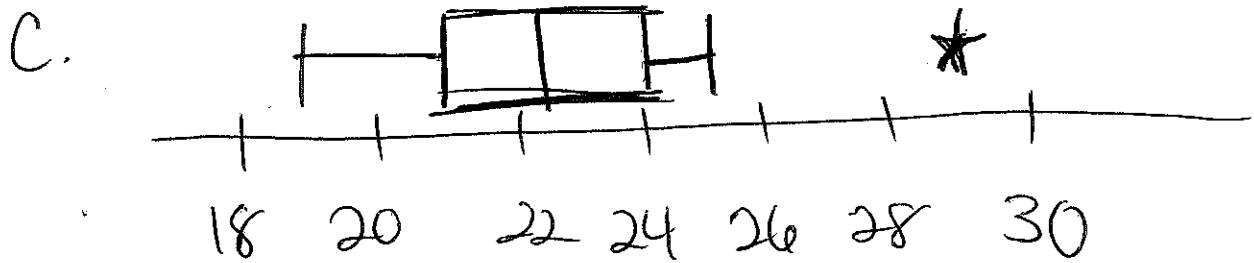
B. $24 - 21 = \boxed{3}$

Q1 21

Med 22.5

Q3 24

Max 29



$$\text{upper fence} = 24 + 1.5(3) = 24 + 4.5 = 28.5$$

$$\text{lower fence} = 21 - 1.5(3) = 21 - 4.5 = 16.5$$

D. outlier @ 29.

8. height : quantitative
 species : qualitative

9. population : every turbine recorded
 -OR-
 sample : only one wind farm

10. a. from z-table: $\boxed{1.04}$

b. from z-table: $0.58 \sim z$ -score w/
area to left

So z-score w/ area to right is $\boxed{-0.58}$

c. from z-table: ~~scribble~~ $\boxed{0.25}$

11. Convenience