Week 01 Quiz

Problem 1

A company records the ages (in years) of 30 employees in ascending order:
`[22, 22, 23, 24, 25, 25, 25, 26, 27, 27, 28, 28, 29, 30, 30, 31, 32, 32, 33, 34, 35, 35, 36, 37, 38, 39, 40, 42, 45, 50]`
Which of the following is the correct frequency table for grouped data (using intervals 20-29, 30-39, 40-49, 50-59?

A)

Age Range	Frequency
20-29	10
30-39	15
40-49	4
50-59	1

B)

Age Range	Frequency
20-29	12
30-39	13
40-49	3
50-59	2

C)

Age Range	Frequency
20-29	13
30-39	13
40-49	3
50-59	1

The class boundary is: 20,29.9, 39.9, 49.9, 59.9,

cut.data.freq	Freq	midpts	rel.freq	cum.freq	rel.cum.freq
[2e+01,3e+01]	13	24.95	0.43	13	0.43
(3e+01,4e+01]	13	34.90	0.43	26	0.87
(4e+01,5e+01]	3	44.90	0.10	29	0.97
(5e+01,6e+01]	1	54.90	0.03	30	1.00

D)

Age Range	Frequency
20-29	11
30-39	14
40-49	3
50-59	2

Correct Answer: C

Problem 2.

A parking lot records the colors of 30 cars:

```
"Red", "Blue", "Black", "White", "Red", "Blue", "Black", "Black",
"White", "Red", "Blue", "Blue", "Black", "White", "Red", "Red",
"Black", "White", "Blue", "Black", "White", "Red", "Blue", "Black",
"White", "Red", "Blue", "Black", "White", "Red"
```

Which frequency table correctly represents this data?

A)

Color	Frequency
Red	8
Blue	7
Black	9
White	6

B)

Color	Frequency
Red	8
Blue	7
Black	8
White	7

textdat	Freq	rel.freq	cum.freq	rel.cum.freq
Black	8	0.27	8	0.27
Blue	7	0.23	15	0.50
Red	8	0.27	23	0.77
White	7	0.23	30	1.00

C)

Color	Frequency
Red	9
Blue	7
Black	8
White	6

D)

Color	Frequency
Red	8
Blue	8
Black	8
White	6

Correct Answer: B

Problem 3

A class of 30 students has the following exam scores (ascending order):

```
[55, 60, 62, 65, 68, 70, 72, 72, 75, 75, 75, 78, 80, 80, 82, 82, 85, 85, 85, 88, 88, 90, 90, 90, 92, 92, 95, 95, 98, 100]
```

If grouped into intervals of (50-59, 60-69, etc.), what is the correct frequency table?

A)

Score Range	Frequency
50-59	1
60-69	4
70-79	7
80-89	9
90-100	9

The class boundary is: 50, 59.9, 69.9, 79.9, 89.9,100

cut.data.freq	Freq	midpts	rel.freq	cum.freq	rel.cum.freq
[5e+01,6e+01]	1	54.95	0.03	1	0.03
(6e+01,7e+01]	4	64.90	0.13	5	0.17
(7e+01,8e+01]	7	74.90	0.23	12	0.40
(8e+01,9e+01]	9	84.90	0.30	21	0.70
(9e+01,1e+02]	9	94.95	0.30	30	1.00

B)

Score Range	Frequency
50-59	1
60-69	5
70-79	7
80-89	9
90-100	8

C)

Score Range	Frequency
50-59	1
60-69	4
70-79	8
80-89	8
90-100	9

D)

Score Range	Frequency
50-59	2
60-69	4
70-79	8
80-89	8
90-100	8

Correct Answer: A

Problem 4

A survey asks 30 people their favorite fruit:

```
"Apple", "Banana", "Orange", "Apple", "Banana", "Banana", "Orange",
"Apple", "Apple", "Banana", "Orange", "Apple", "Banana", "Orange",
"Apple", "Banana", "Orange", "Apple", "Banana", "Orange", "Apple",
"Banana", "Orange", "Apple", "Banana", "Orange", "Apple", "Banana",
"Orange", "Apple"
```

Which frequency table is correct?

A)

Fruit	Frequency
Apple	11
Banana	10
Orange	9

textdat	Freq	rel.freq	cum.freq	rel.cum.freq
Apple	11	0.37	11	0.37
Banana	10	0.33	21	0.70
Orange	9	0.30	30	1.00

B)

Fruit	Frequency
Apple	13
Banana	10
Orange	7

C)

Fruit	Frequency
Apple	12
Banana	10
Orange	8

D)

Fruit	Frequency
Apple	11
Banana	11
Orange	8

Correct Answer: A

Problem 5

A city records monthly rainfall (in mm) for 30 months (ascending order):
`[10, 12, 15, 18, 20, 22, 25, 25, 28, 30, 30, 32, 35, 35, 35, 38, 40, 42, 45, 45, 48, 50, 50, 52, 55, 55, 58, 60, 62, 65]`
If grouped into intervals of 10 (10-19, 20-29, etc.), what is the correct frequency table?

A)

Rainfall (mm)	Frequency
10-19	4
20-29	5
30-39	7
40-49	5
50-59	6
60-69	3

The class boundary is: 10, 19.9, 29.9, 39.9, 49.9, 59.9, 69.9

cut.data.freq	Freq	midpts	rel.freq	cum.freq	rel.cum.freq
[1e+01,2e+01]	4	14.95	0.13	4	0.13
(2e+01,3e+01]	5	24.90	0.17	9	0.30
(3e+01,4e+01]	7	34.90	0.23	16	0.53
(4e+01,5e+01]	5	44.90	0.17	21	0.70
(5e+01,6e+01]	6	54.90	0.20	27	0.90
(6e+01,7e+01]	3	64.90	0.10	30	1.00

B)

Rainfall (mm)	Frequency
10-19	3
20-29	7
30-39	6
40-49	5
50-59	6
60-69	3

C)

Rainfall (mm)	Frequency
10-19	4
20-29	5
30-39	7
40-49	6
50-59	5
60-69	3

D)

Rainfall (mm)	Frequency
10-19	4
20-29	5
30-39	8
40-49	5
50-59	5
60-69	3

Correct Answer: A

Problem 6

A weather station records daily temperatures (°F) for 30 days in ascending order: `[52, 55, 58, 60, 62, 64, 65, 65, 68, 70, 70, 72, 72, 72, 75, 75, 78, 78, 80, 80, 82, 82, 85, 85, 88, 88, 90, 90, 92, 95]`

If grouped into intervals of 10 (50-59, 60-69, etc.), which frequency table is correct?

A)

Temperature (°F)	Frequency
50-59	3
60-69	6
70-79	9
80-89	8
90-99	4

The class boundary is: 50, 59.9, 69.9, 79.9, 89.9, 100

cut.data.freq	Freq	midpts	rel.freq	cum.freq	rel.cum.freq
[5e+01,6e+01]	3	54.95	0.10	3	0.10
(6e+01,7e+01]	6	64.90	0.20	9	0.30
(7e+01,8e+01]	9	74.90	0.30	18	0.60
(8e+01,9e+01]	8	84.90	0.27	26	0.87
(9e+01,1e+02]	4	94.95	0.13	30	1.00

B)

Temperature (°F)	Frequency
50-59	4
60-69	5
70-79	10
80-89	7
90-99	4

C)

Temperature (°F)	Frequency
50-59	3
60-69	7
70-79	8
80-89	8
90-99	4

D)

Temperature (°F)	Frequency
50-59	3
60-69	6
70-79	10
80-89	7
90-99	4

Correct Answer: A

Problem 7

A survey asks 30 people their preferred social media platform:

```
"Facebook", "Instagram", "Twitter", "Facebook", "Instagram",
"Twitter", "Facebook", "Instagram", "Twitter", "Facebook",
"Instagram", "Twitter", "Facebook", "Instagram", "Twitter",
"Facebook", "Instagram", "Twitter", "Facebook", "Instagram",
"Twitter", "Facebook", "Instagram", "Twitter", "Facebook",
"Instagram", "Twitter", "Facebook", "Instagram", "Twitter"
```

Which frequency table is correct?

A)

Platform	Frequency
Facebook	10
Instagram	10
Twitter	10

textdat	Freq	rel.freq	cum.freq	rel.cum.freq
Facebook	10	0.33	10	0.33
Instagram	10	0.33	20	0.67
Twitter	10	0.33	30	1.00

B)

Platform	Frequency
Facebook	12
Instagram	9
Twitter	9

C)

Platform	Frequency
Facebook	11
Instagram	10
Twitter	9

D)

Platform	Frequency
Facebook	9
Instagram	10
Twitter	11

Correct Answer: A

Problem 8

A store records monthly sales (in $1000s) for 30 months in ascending order:
`[12, 15, 18, 20, 22, 25, 25, 28, 30, 30, 32, 35, 35, 38, 40, 42, 45, 45, 48, 50, 50, 52, 55, 55, 58, 60, 62, 65, 68, 70]`

If grouped into intervals of 10 (10-19, 20-29, etc.), which frequency table is correct?

A)

Sales ($1000s)	Frequency
10-19	3
20-29	5
30-39	7
40-49	6
50-59	5
60-69	3
70-79	1

B)

Sales ($1000s)	Frequency
10-19	2
20-29	6
30-39	6
40-49	6
50-59	6
60-69	3
70-79	1

C)

Sales ($1000s)	Frequency
10-19	3
20-29	5
30-39	6
40-49	5
50-59	6
60-69	4
70-79	1

The class boundary is: 10, 19.9, 29.9, 39.9, 49.9, 59.9, 69.9, 79.9

cut.data.freq	Freq	midpts	rel.freq	cum.freq	rel.cum.freq
[1e+01,2e+01]	3	14.95	0.10	3	0.10
(2e+01,3e+01]	5	24.90	0.17	8	0.27
(3e+01,4e+01]	6	34.90	0.20	14	0.47
(4e+01,5e+01]	5	44.90	0.17	19	0.63
(5e+01,6e+01]	6	54.90	0.20	25	0.83
(6e+01,7e+01]	4	64.90	0.13	29	0.97
(7e+01,8e+01]	1	74.90	0.03	30	1.00

D)

Sales ($1000s)	Frequency
10-19	3
20-29	5
30-39	7
40-49	5

50-59	6
60-69	3
70-79	1

Correct Answer: C

Problem 9

A hospital records blood types of 30 patients:

```
"A", "B", "AB", "O", "A", "B", "AB", "O", "A", "B", "AB", "O", "A", "B", "AB", "O", "A", "B", "AB", "O", "A", "B", "AB", "O", "A", "B", "AB", "O", "A", "B"
```

Which frequency table is correct?

A)

Blood Type	Frequency
A	8
B	8
AB	7
O	7

textdat	Freq	rel.freq	cum.freq	rel.cum.freq
A	8	0.27	8	0.27
AB	7	0.23	15	0.50
B	8	0.27	23	0.77
O	7	0.23	30	1.00

B)

Blood Type	Frequency
A	9
B	8
AB	6
O	7

C)

Blood Type	Frequency
A	8
B	9
AB	6
O	7

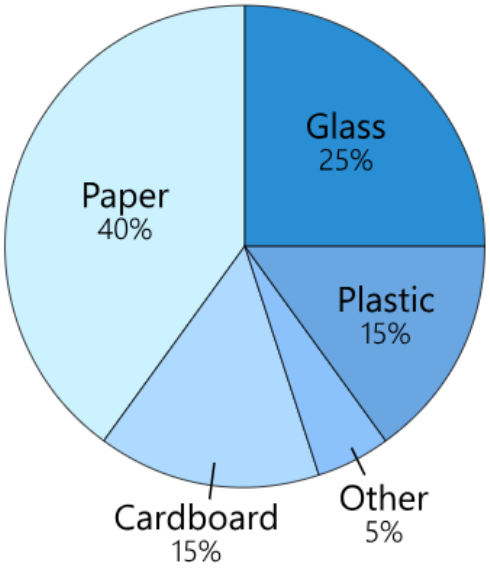
D)

Blood Type	Frequency
A	7
B	8
AB	8
O	7

Correct Answer: A

Problem 10

The Charleston Recycling Company collects 50,000 tons of recyclable material every month. The chart below shows the kinds of materials that are collected by the company's five trucks. What is the second most common material that is recycled?

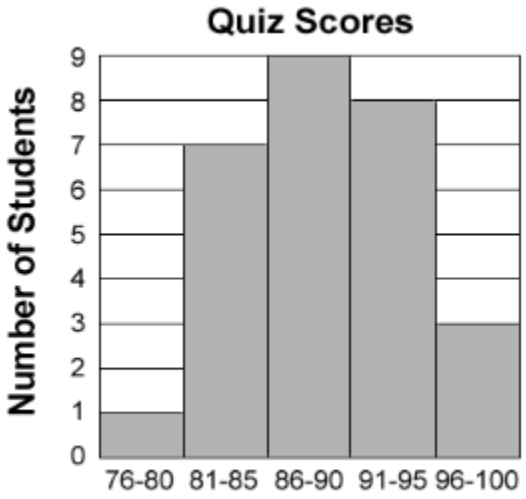


A. Cardboard
B. Glass
C. Paper
D. Plastic

Answer B

Problem 11

Which of the statements is true concerning the quiz scores represented in the following histogram? Assume that all student quiz scores from a certain class are represented.

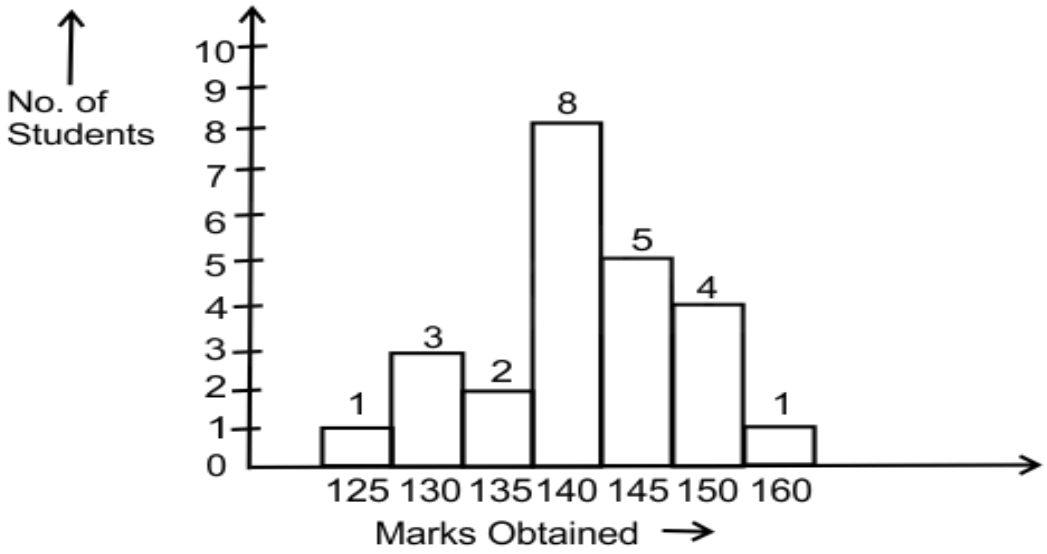


a. More students received a score of 97% than 77%.
b. There were more students who scored a 96% or higher than students who scored under 81%.
c. More than half the class scored 91% or higher.
d. The most common quiz score was 88%.

Answer B

Problem 12

Study the given bar-graph ans answer the following questions



How many students obtained more than the average marks of the class?

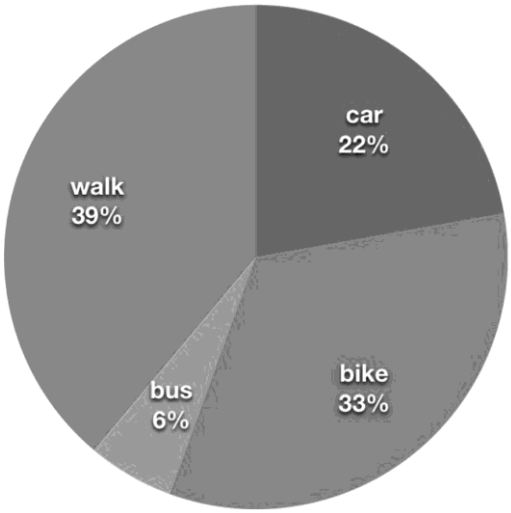
A) 10
B) 8
C) 6
D) 11

Answer A

(125+3*130, 2*135+8*140+5*145+4*150+1*160)/1+3+2+8+5+4+1) = 141

Problem 13

If 300 people had been surveyed about their transport, how many used a car?

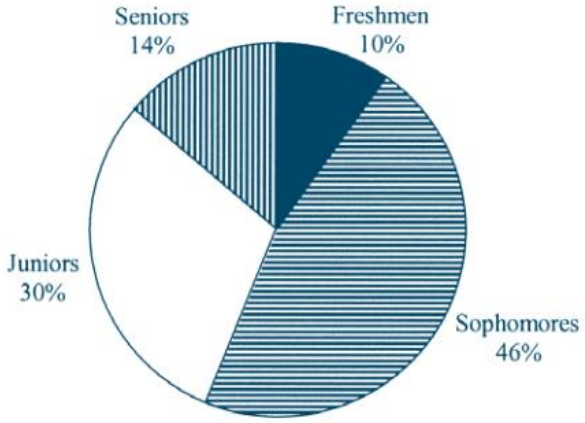


A) 22
B) 66
C) 33
D) 99

Answer B

Problem 14

A professor of economics at a small Texas university wanted to determine what year in school students were taking his tough economics course. Shown below is a pie chart of the results. What percentage of the class took the course prior to reaching their senior year?



A) 86%

B) 56%

C) 14%

D) 44%

Answer A

Summary of Homework #1

The class boundary is: 60, 70,80,90,100

cut.data.freq	Freq	midpts	rel.freq	cum.freq	rel.cum.freq
[6e+01,7e+01]	11	65.00	0.28	11	0.28
(7e+01,8e+01]	2	75.00	0.05	13	0.33
(8e+01,9e+01]	13	85.00	0.33	26	0.65
(9e+01,1e+02]	14	95.00	0.35	40	1.00