Angeles City Science High School

Math 10

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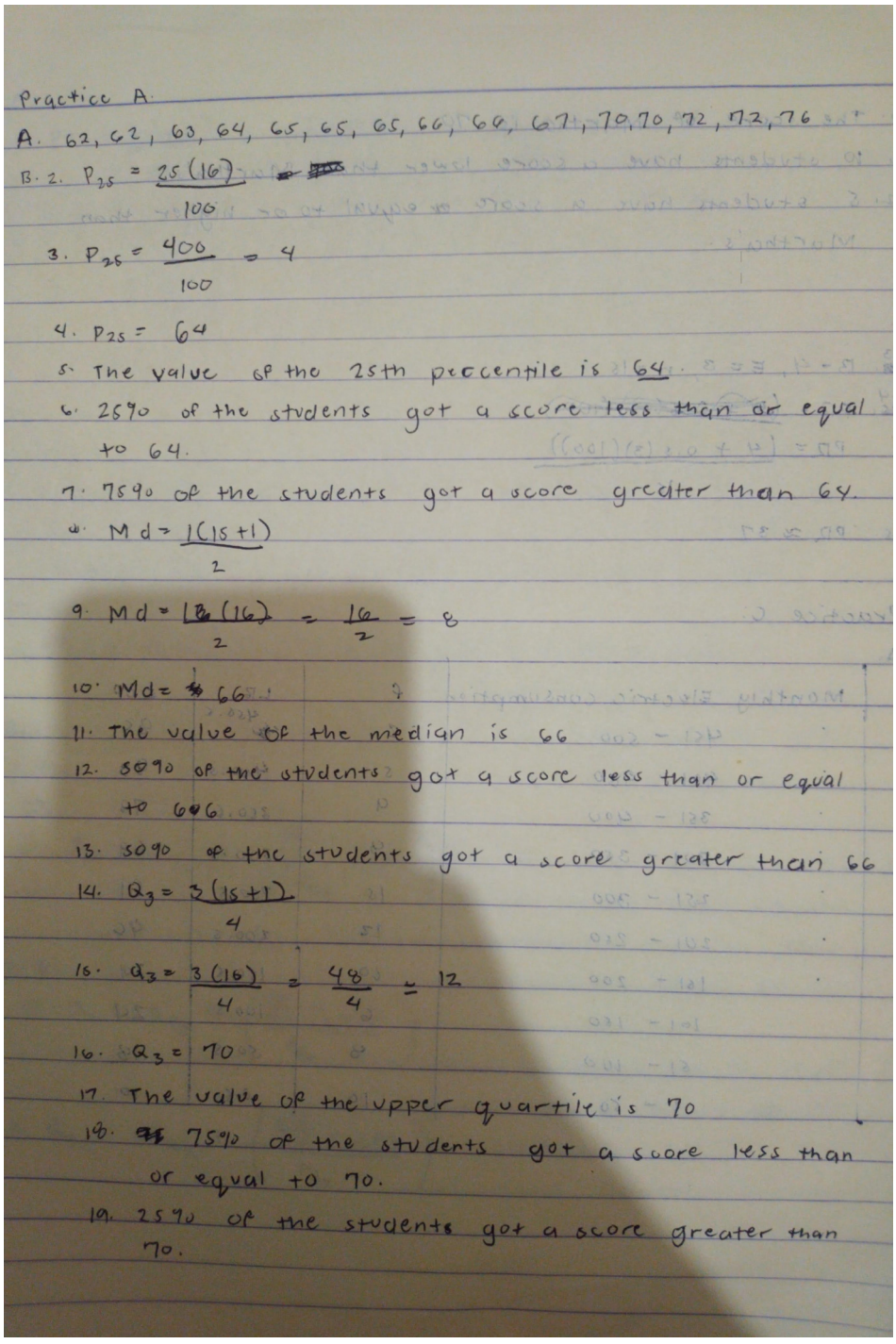

Practice A

A. 62, 62, 63, 64, 65, 65, 65, 66, 69, 67, 70, 70, 72, 72, 76

B. 2. $P_{25} = \frac{25(16)}{100}$

3. $P_{25} = \frac{400}{100} = 4$

4. $P_{25} = 64$

5. The value of the 25th percentile is 64.

6. 25% of the students got a score less than or equal to 64.

7. 75% of the students got a score greater than 64.

8. $Md = \frac{1(15+1)}{2}$

9. $Md = \frac{1(16)}{2} = \frac{16}{2} = 8$

10. $Md = 66$

11. The value of the median is 66

12. 50% of the students got a score less than or equal to 66.

13. 50% of the students got a score greater than 66

14. $Q_3 = \frac{3(15+1)}{4}$

15. $Q_3 = \frac{3(16)}{4} = \frac{48}{4} = 12$

16. $Q_3 = 70$

17. The value of the upper quartile is 70

18. 75% of the students got a score less than or equal to 70.

19. 25% of the students got a score greater than 70.

20. The score of Martha is 70.

21. 10 students have a score lower than Martha's

22. 5 students have a score ~~or~~ equal to or higher than Martha's.

D.

23. B = 4, E = 3, n = 15

24. ~~PR = (4 + 0.5(3)(100))~~

PR = $\frac{(4 + 0.5(3)(100))}{15}$

25. PR ≈ 37

Practice C:

A.

Monthly Electric consumption	f	LB	< cf
451 - 500	2	450.5	85
401 - 450	5	400.5	83
351 - 400	9	350.5	78
301 - 350	8	300.5	69
251 - 300	15	250.5	61
201 - 250	12	200.5	46
151 - 200	10	150.5	34
101 - 150	6	100.5	24
51 - 100	8	50.5	18
1 - 50	10	0.5	10

A.

1. $P_{25} = \frac{k(n+1)}{100} = \frac{25(84+1)}{100} = \frac{2125}{100} = 21.25$

2. $D_5 = \frac{5(84+1)}{10} = \frac{5(85)}{10} = \frac{425}{10} = 42.5$

3. $Q_3 = \frac{3(84+1)}{4} = \frac{3(85)}{4} = \frac{255}{4} = 63.75$

B.

1. P_{25}

→ LB = 100.5, k = 25, N = 85, cfb = 18, f = 6, i = 50

2. D_5

→ LB = 200.5, k = 5, N = 85, cfb = 34, f = 12, i = 50

3. Q_3

→ LB = 300.5, k = 3, N = 85, cfb = 61, f = 8, i = 50

C.

1. P_{25}

→

$$P_K = LB_{P_K} + \left(\frac{\frac{kN}{100} - cfb}{f_{P_K}} \right) i$$

2. D_5

→ $$D_K = LB_{D_K} + \left(\frac{\frac{kN}{100} - cfb}{f_{D_K}} \right) i$$

3. $$Q_3 = LB_{Q_K} + \left(\frac{\frac{kN}{100} - cfb}{f_{Q_K}} \right) i$$

D.

1. $P_{25} = 100.5 + \left(\frac{21.25 - 18}{6}\right)50 = 100.5 + 27.08 = 127.58$

2. $D_5 = 200.5 + \left(\frac{42.5 - 34}{12}\right)50 = 200.5 + 35.42 = 235.92$

3. $Q_3 = 300.5 + \left(\frac{63.75 - 61}{8}\right)50 = 300.5 + 17.19 = 317.69$

E.

1. The value of the 25th percentile is 127.58
2. The value of the 5th decile is 235.92
3. The value of the 3rd quartile is 317.69.

F.

1. 25% of the household consumed less than or equal to 127.58 kWh of electricity.
   75% of the household consumed greater than 127.58 kWh of electricity.

2. 50% of the household consumed less than or equal to 235.92 kWh of electricity.
   50% of the household consumed greater than 235.92 kWh of electricity.

3. 75% of the household consumed less than or equal to 317.69 kWh of electricity.
   25% of the household consumed less than or equal to 317.69 kWh of electricity.

2. The household should ~~come~~ consume 127.58 kWh of electricity to be at the lower quartile.

3. the household should consume 235.42 kWh of electricity to be at the median.

4. the household with an average monthly electricity consumption of 320 kWh is at the 75th percentile rank.