Course .....ANLP8125C-V01.....Unit Lesson.....Pyramids, Cone, and Sphere.....
Subject ……Mathematics……..……...Level……Mathayom 3…….……
Teacher ……..
School…….……

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The table of Mathematics Subject Test Analysis….Mathematics…**Level**….Mathayom 3….

Unit Lesson " Pyramids, Cone, and Sphere "

No.	No. of Indicator	Indicator	Knowledge / Skill						
			Knowledge		Cognitive				
			Remembering	Understanding	Applying	Analyzing	Evaluating	Creating	Total
1.	MA 2.1 G.9/1	Understand and apply the surface area of pyramids, cones and spheres to solve real-life and mathematical problems.	-	Multiple Choice 1	-	-	-	-	1
2	MA 2.1 G.9/2	Understand and apply the volume of pyramids, cones and spheres to solve real-life and mathematical problems.		Multiple Choice 2					2
Total			-	3	-	-	-	-	3

ลงชื่อ .....
ผู้ออกข้อสอบ

ลงชื่อ .....
ผู้ตรวจทาน

Course .....ANLP8126C-V01.....Unit Lesson.....Statistics(3).....

Subject ……Mathematics……..Level……Mathayom 3……..

Teacher …….

School……..……

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The table of Mathematics Subject Test Analysis….Mathematics…**Level**….Mathayom 3….

Unit Lesson " Statistics(3) "

No.	No. of Indicator	Indicator	Knowledge / Skill						
			Knowledge		Cognitive				
			Remembering	Understanding	Applying	Analyzing	Evaluating	Creating	Total
1.	MA 3.1 G.9/1	Understand and use statistical knowledge in presenting and analyzing data from box-and-whisker plots and interpreting results and applying statistics in real life using appropriate technology.	-	Multiple Choice 5	Solution 2	Multiple Choice 2	-	-	9
Total				5	2	1	-	-	9

ลงชื่อ .....
ผู้ออกข้อสอบ

ลงชื่อ .....
ผู้ตรวจทาน

Course ....ANLP8127C-V01........................Unit Lesson......Probability...........................
Subject ....Mathematics.......................... .Level...........Mathayom 3..................
Teacher ....
School...

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The table of Mathematics Subject Test Analysis....Mathematics...**Level**....Mathayom 3....

Unit Lesson " Probability "

No.	No. of Indicator	Indicator	Knowledge / Skill						
			Knowledge		Cognitive				
			Remembering	Understanding	Applying	Analyzing	Evaluating	Creating	Total
1.	MA 3.1 G.9/2	Understand about random experiments and use their results to find the probability of events	-	Multiple Choice 8	Multiple Choice 1 Solution 1	Multiple Choice 1	-	-	11
Total			-	8	2	1	-	-	11

ลงชื่อ ....
ผู้ออกข้อสอบ

ลงชื่อ ....
ผู้ตรวจทาน

Final Test Semester1/ 2565

School ..... Province .....

Course ..... Subject ..... Level .....

Score ..... points **Time ..... minutes**

<u>Part 1</u> Multiple Choice Tests

<u>Direction</u> Mark X against the correct answer.

<u>Indicators</u>

MA 2.1 G.9/1 Understand and apply the surface area of pyramids, cones and spheres to solve real-life and mathematical problems.

MA 2.1 G.9/2 Understand and apply the volume of pyramids, cones and spheres to solve real-life and mathematical problems

MA 3.1 G.9/1 Understand and use statistical knowledge in presenting and analyzing data from box-and-whisker plots and interpreting results and applying statistics in real life using appropriate technology.

MA 3.1 G.9/2 Understand about random experiments and use their results to find the probability of events

1. A formular for the volume V of a sphere with radius r is $V = \frac{4}{3}\pi r^3$. If the radius of a spherical rubber ball is $2\sqrt[3]{3}$ inches. What is its volume in terms of π ? (MA 2.1 G.9/2 Understanding)
   1. 25π
   2. 32π
   3. 40π
   4. 42π

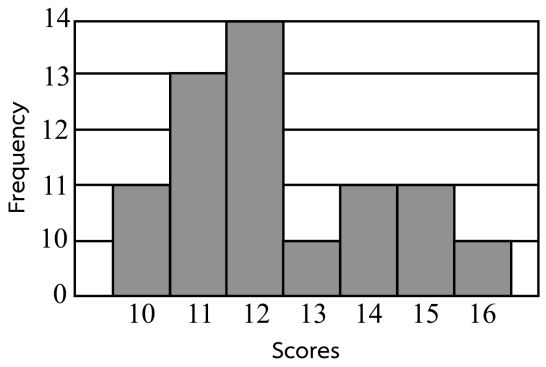
2. How many times to the surface area of the resultant sphere, if the radius is tripled? (MA 2.1 G.9/1 Understanding)
   1. $\frac{1}{2}$
   2. remain same
   3. 3
   4. 9

3. A solid sphere of metal with a radius of 6 feet is melted into 3 solid spheres, the first sphere has a radius of 3 feet, and the second sphere has a radius of 5 feet, what is the radius of the 3^{rd} sphere in feet? (MA 2.1 G.9/2 Understanding)
   1. 2 feet
   2. 2.5 feet
   3. 4 feet
   4. 4.2 feet

4. Tom has scores of 0, 6, 7, 8, 10, 10, and 10 on his science lab reports, which are equally weighted. Which of the following is closest to the mean of his science lab report scores? (MA 3.1 G.9/1 Understanding)
   1. 5
   2. 7.3
   3. 8
   4. 10

24, 23, 25, 31, 22, 31, 26

5. An archeologist recorded the average heights, in feet, of seven ancient walls around a particular location. The heights are given in the list above. What is the difference, in feet, between the median height and the mean height recorded by the seven walls? MA 3.1 G.9/1 Understanding)
   1. 1
   2. 2
   3. 25
   4. 26

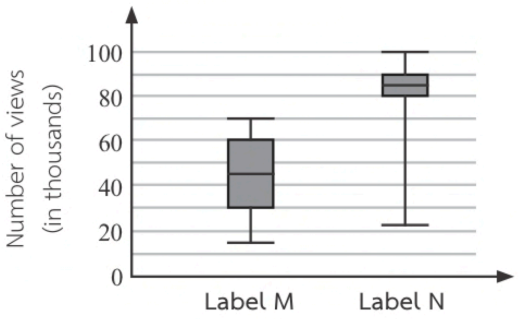


6. The graph above shows the frequency distribution of a list of randomly generated scores between 10 and 16. What is the approximate mean of the list of scores? (MA 3.1 G.9/1 Understanding)
   1. 11.8
   2. 12.3
   3. 12.9
   4. 13.2

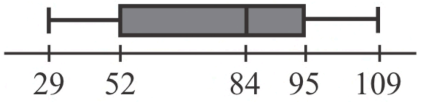
Cost (in dollars)	Frequency
18 – 24	8
12 – 18	12
6 – 12	36
0 – 6	28

7. The table above shows the cost per kilogram of meatloaf from 84 meat shops in Townsville. What is the median cost per kilogram of meatloaf from these restaurants? (MA 3.1 G.9/1 Understanding)
   1. Between $18-24
   2. Between $12-18
   3. Between $6-12
   4. Between $0-6

8. The organization collects data from 2 additional restaurants and includes the new data in the list. The number of fat calories in a small order of french fries at each of the 2 additional restaurants is designated by x and y respectively. Which of the following expressions gives the average of this larger list of values? (MA 3.1 G.9/1 Applying)
   1. $\frac{932+x+y}{10}$
   2. $\frac{932+x+y}{11}$
   3. $\frac{1092+x+y}{10}$
   4. $\frac{1092+x+y}{11}$



9. The box plots above represent the distribution of the current number of views, in thousands, that the latest 25 released music videos from Labels M and N received. What is the approximate difference, in thousands, between the range of number of views of the latest 25 music videos from Label M and the range of number of views of the latest 25 music videos from Label N? (MA 3.1 G.9/1 Understanding)
   1. 13
   2. 23
   3. 38
   4. 55



10. Which of the following statements about the box plot shown above is true? (MA 3.1 G.9/1 Analyzing)
    1. There are no data between 29 and 52.
    2. The range of the data is 43.
    3. There are more data between 52 and 84 than between 84 and 95.
    4. The median of the data is 84.

11. A family has two children, which of the following is correct? (MA 3.1 G.9/2 Analyzing)
    1. The probability that the family will have the first child as a boy and the second one as a girl = $\frac{1}{4}$.
    2. The probability that this family has at least one son = $\frac{3}{4}$.
    3. The probability that this family has no sons = $\frac{1}{4}$.
    4. All correct

12. What is the probability that a family in Australia had 13 all-female children? (MA 3.1 G.9/2 Understanding)
    1. $\frac{1}{13}$
    2. $\frac{1}{13^2}$
    3. $\frac{1}{2^{13}}$
    4. $\frac{2}{2^{13}}$

13. A box contains red, white, blue, and purple marbles of each color of 1. If 2 balls are randomly picked at the same time, what is the probability that unable to pick up not red with white? (MA 3.1 G.9/2 Understanding)
    1. $\frac{11}{12}$
    2. $\frac{1}{12}$
    3. $\frac{1}{6}$
    4. $\frac{5}{6}$

14. Throw 2 dice at the same time. What is the probability that the first dice will score more than or equal to the second dice? (MA 3.1 G.9/2 Understanding)

1. $\frac{7}{12}$
2. $\frac{5}{12}$
3. $\frac{3}{4}$
4. $\frac{1}{6}$

15. Pick up 1 card from the deck. What is the probability of picking a Jack ot=r Queen or Hearts or Clubs equal to? (MA 3.1 G.9/2 Understanding)

1. $\frac{1}{2}$
2. $\frac{1}{13}$
3. $\frac{15}{26}$
4. $\frac{17}{26}$

16. Mike buy 2 government lottery tickets, what is the chance of winning the last 3 digits? (MA 3.1 G.9/2 Understanding)

1. $\frac{3}{100}$
2. $\frac{1}{500}$
3. $\frac{1}{250}$
4. $\frac{1}{200}$
5.

17. At a banquet, there were 2 savory dishes and 2 desserts. If one person can choose only savory food and can only choose sweets, what is the probability that 2 men working at this party choose the same food, both savory and sweet? (MA 3.1 G.9/2 Understanding)

1. $\frac{1}{6}$
2. $\frac{1}{4}$
3. $\frac{1}{3}$
4. $\frac{1}{2}$

18. Toss two dice at the same time 1 time. What is the probability of getting the sum of the points divided by 4? (MA 3.1 G.9/2 Understanding)

1. $\frac{1}{6}$
2. $\frac{1}{4}$
3. $\frac{1}{3}$
4. $\frac{5}{36}$

19. Throw 4 balls into a can. By throwing one ball at a time. If the chance of each ball going down or not canned equal values, what is the probability that the second ball and fourth ball do not hit the can? (MA 3.1 G.9/2 Understanding)

1. $\frac{1}{2}$
2. $\frac{1}{4}$
3. $\frac{1}{8}$
4. $\frac{1}{16}$

20. Toss 2 coins at the same time. If both coins are tossed out of the heads. Mr. Tine will pay Mr. Don 20 baht but if issued otherwise Mr. Don must pay Mr. Tine 15 baht, what is the expected value that Mr. Don will receive? (MA 3.1 G.9/2 Applying)

1. -6.25 baht
2. +6.25 baht
3. 0 baht
4. -6.50 baht

Part2 Solution Questions

Direction Find the answers to the questions below.

1. Seven painters are assigned a letter from the word WELCOME for painting at random. Find the probability that a painter is assigned (MA 3.1 G.9/2 Applying)

1.1 the letter 'L'

…Solution……

…...……n(e)… = …{L}…=…1……

…...……n(s) …= …{W,E,L,C,O,M,E}…=… 7……

…...……p(e)… = …$\frac{1}{7}$ ……

……

1.2 the vowel

…Solution……

…...……n(e) …=… {E,E,O}… =… 3……

…...……n(s) …=… {W,E,L,C,O,M,E}…=… 7……

…...……p(e) …=… $\frac{3}{7}$… ANS……

……

1.3 The letter 'W' or 'M'

…Solution……

…...……n(e) …=… {W,M}… =… 2……

…...……n(s) …=… {W,E,L,C,O,M,E}…=… 7……

…...……p(e) …=… $\frac{2}{7}$… ANS……

……

2. The mean mass of 12 bags of tomatoes is 2.4 kilograms. If another bag containing 2.2 kilograms of tomatoes is now included, what would be the new mean mass of all 13 bags? (MA 3.1 G.9/1 Applying)

…Solution

……$\bar{x}$ เดิม $= \frac{\Sigma x \text{ เดิม}}{n \text{ เดิม}}$……

…… 2.4 $= \frac{\Sigma x \text{ เดิม}}{12}$……

……Σxเดิม $= 2.4 \times 12 = 28.8$……

……$\bar{x}$ ใหม่ $= \frac{\Sigma x \text{ ใหม่}}{n \text{ ใหม่}}$……

……$\bar{x}$ ใหม่ $= \frac{\Sigma x \text{ เดิม} + \text{ข้อมูลที่เพิ่มเข้ามา}}{n \text{ ใหม่}} = \frac{28.8+2.2}{13} = 2.38\ kg$ ANS……

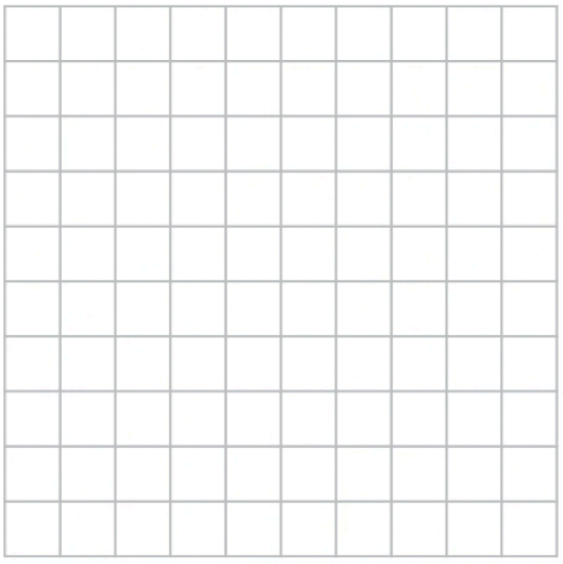
……

3. A police officer recorded the speed, in km/h , of 30 cars passing through a speed camera on a highway on Friday, Saturday, and Sunday. The results are as shown below.

10	11	2	22	21	30	41	44	49	34
8	2	5	15	12	29	32	13	44	50
18	1	37	33	47	44	28	22	29	18

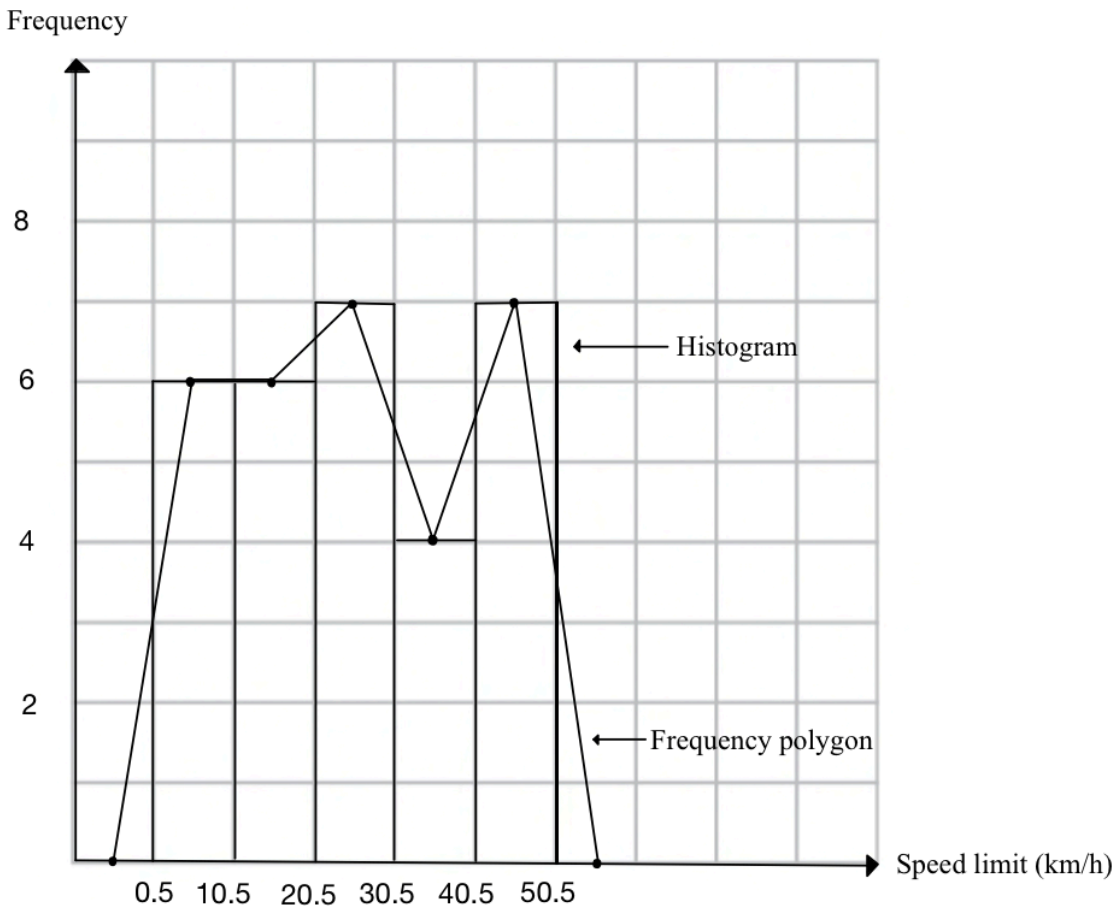
Make a frequency distribution table by using 5 intervals and draw a histogram and frequency polygon to represent this information. (MA 3.1 G.9/1 Applying)

Speed limit (km/h)	Class Boundaries		Midpoint	Frequency
	Lower	Upper		



Solution

Speed limit (km/h)	Class Boundaries		Midpoint	Frequency
	Lower	Upper		
1 - 10	0.5	10.5	5.5	6
11 - 20	10.5	20.5	15.5	6
21 - 30	20.5	30.5	25.5	7
31 - 40	30.5	40.5	35.5	4
41 - 50	40.5	50.5	45.5	7



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