Republic of the Philippines
Department of Education
Region VIII (Eastern Visayas)
Ormoc City Division
**LINAO NATIONAL HIGH SCHOOL**
Ormoc City

GENERAL DIRECTION: ***DO NOT WRITE ANYTHING ON THE TEST QUESTIONNAIRE. ALL ANSWERS MUST BE REFLECTED ON THE ANSWER SHEET.***

1. Which of the following is a discrete random variable?
a. the average amount of electricity consumed.
b. the number of patients in a hospital
c. the amount of paint used in repainting a building
d. the average weight of cats in the adoption center.
2. If three coins are tossed, which is not a possible value of the random variable for the number of tails?
a. 0 b. 1 c. 2 d. 4
3. Which of the following is **NOT a TRUE** statement?
a. The value of a random variable could be zero.
b. Random variables can only have one value.
c. The probability of the value of a random variable could be zero.
d. the sum of all the probabilities is always equal to one.
4. Which of the formula gives the probability distribution shown by the table?

| X | 2 | 3 | 6 |
|---|---|---|---|
| P(x) | 1/2 | 1/3 | 1/6 |

a. P(x) = 1/ x b. P(x)= x/6 c. P(x) = 6/x d. P(x) = 1/6
5. If P(x) = x/6, what are the possible values of X for it to be a probability distribution?
a. 0, 2,3 b. 1, 2, 3 c. 2, 3, 4 d. 1, 1, 2

For numbers 6- 8, refer to the probability distribution shown below.

| X | 0 | 1 | 2 | 3 |
|---|---|---|---|---|
| P(X) | 1/8 | 3/8 | 3/8 | 1/8 |

6. What is the mean of the probability distribution?
a. 1. 5 b. 1.2 c. 1.6 d. 1.8
7. What is the variance of the probability distribution?
a. 0.75 b. 1.00 c. 1.25 d. 0.50
8. What is the standard deviation of the probability distribution?
a. 1.00 b. 0.87 c. 1.12 d. 0.71

For numbers 9-10, refer to the probability distribution shown below.

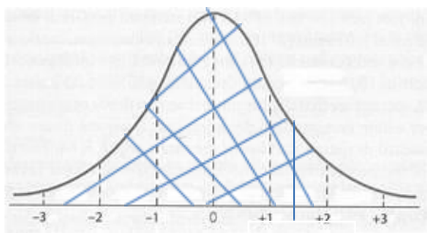
| X | 1 | 2 | 4 | 6 | 8 |
|---|---|---|---|---|---|
| P(X) | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 |

9. What is the mean of the probability distribution?
a. 1. 5 b. 2.0 c. 3.5 d. 4.0
10. What is the variance of the probability distribution?
a. 4.15 b. 6.35 c. 8.00 d. 7.50

B. Identify whether the given variable is discrete or continuous. Encircle **D if it is discrete** and **C if it is continuous**.

11. the number of books in the library.
12. the lifetime in hours of 15 flashlights.
13. the number of tourists each day in museum.
14. the capacity of water dams in a region.
15. the weight of Grade 1 pupils
16. In a NORMAL CURVE or NORMAL DISTRIBUTION, the graph is symmetrical and the skewness is ____.
a. 1 b. 2 c. 0 d. 1.5
17. Which of the following is **NOT A PROPERTY** of the Normal Probability Distribution?
a. The distribution curve is bell shaped.
b. The curve is symmetrical about its center.
c. the width of the curve is determined by the skewness.
d. the curve is asymptotic to the base line.

18. What is the measurement of the area under the curve?
a. 1 b. 2 c. 3 d. 4
19. What is the area of the z-score 0.98?
a. 0. 3159 b. 0. 3365 c. 0. 3389 d. 0.3106
20. What is the area of the z- score 2.45?
a. 0. 4929 b. 0. 4918 c. 0.4927 d. 0. 4920
21. What is the area of the z- score 2.03?
a. 0. 4772 b. 0. 4793 c. 0.4788 d. 0.4744
22. What is the area of the z- score 2.96 ?
a. 0. 4984 b. 0. 4985 c. 0. 4987 d. 0. 4988
For numbers 23- 25, refer to the given below.
$x= 50$ , $\sigma = 5$ , $\mu = 40$
23. What is the z- score? a. 1 b. 2 c. -1 d. -2
24. Where does the z- score locates the raw score? a. within a sample b. within a population c. sample d. population
25. Where does the raw score lies with respect to the mean? a. equal with the mean b. below the mean c. above the mean
For numbers 26- 30, refer to the diagram below:



1. 34

26. What is the value of z= 1. 34? a. -0.4099 b. – 0. 5000 c. 0.4099 d. 0.9099
27. What is the P (z >1.34) ? a. 0. 4099 b. 0. 0901 c. 0.9099 d. 0.134
28. What operation is required to be able to find the area ? a. addition b. subtraction c. multiplication d. division
29. Where does the z- score lies? a. above average c. below average c. within the population d. at par with the average
30. What can you say about the value of z= -1.34 and z= 1.34? a. same b. the positive z has bigger area than the negative z c. the negative z has bigger area than the positive z d. none of the above.
31. What is the 95$^{th}$ percentile of a normal curve? a. 1. 65 b. 1.64 c. 1. 645 d. 1.654
32. What area did you use in locating the 95$^{th}$ percentile in the z- table? A. 0. 4500 b. 0. 4505 c. 0. 4495 d. 0. 4505
For number 33- 35, refer to the problem below.

The results of a nationwide aptitude test in mathematics are normally distributed with m= 80 and s= 15. Find the raw score such that 70% of the cases are below it.
33. What is the nearest area in the z- table? A. 0.2000 b. 0.1985 c. 0. 1990 d. 0. 1995
34. What is the z- value that corresponds to the nearest area as based on number 33? A. 0. 51 b. 0.52 c. 0.53 d. 0.54
35. What is the raw score such that 70% of the scores are below it? a. 85 b. 88 c. 87 d. 86
36. A certain population has a mean of 15. 4 and a standard deviation of 5.6. If random size 5 is taken from this population, which of the following statement is correct?
a. the mean of the sampling distribution of the sample mean is equal to 15.4.
b. the mean of the sampling distribution of the sample means is less than 15.4.
c. the standard deviation of the sampling distribution of the sample means is 5.6.
d. the standard deviation of the sampling distribution of the sample means is 15.4.
37. How many possible of size n= 3 can be drawn from a population of size 12?
a. 36 b. 1728 c. 144 d. 220

For numbers 38- 40, refer to the problem below.
The average precipitation for the first 7 months of the year is 19.32 inches with a standard deviation of 2.4 inches. Assume that the average precipitation is normally distributed.
38. What is the probability that a randomly selected year will have precipitation greater than 18 inches for the first 7 months? A. 0.7088 b. 0.8523 c. 0. 4562 d. 0. 1258
39. What is the average precipitation of 5 randomly selected years for the first 7 months?
a. 19.32 inches b. 22.4 inches c. 20.52 inches d. 15. 56 inches
40. What is the probability of 5 randomly selected years will have an average precipitation greater than 18 inches for the first 7 months?
a. 0. 8907 b. 0.2587 c. 0. 4156 d. 0.2879