**PANTANG M/A JHS**

END OF FIRST TERM EXAMINATIONS – DEC. 2018

CLASS: JHS 2 SUBJECT: **MATHEMATICS**

NAME…………………………………………………..…………. DURATION:……………………………

**OBJECTIVE TEST**

Answer all questions in this shading paper by shading the correct answer on the shading sheet provided. Shade only one answer. Erase completely if you want to change the option selected.

1. The mark of eight students in a test are 10, 4, 5, 3, 14, 13, 16 and 7. Find the range
2. 16
3. 14
4. 13
5. 11
6. Find the least common multiple (L.C.M) of the numbers 6, 12 and 20.
7. 22 x 3 x 5
8. 2 x 32 x 5
9. 22 x 32 x 5
10. 2 x 2
11. Find the value of x in the diagram
12. 60
13. 65
14. 55
15. +95
16. Find the ¾ ÷ 0.8
17. $^{2}/\_{3}$
18. $^{15}/\_{16}$
19. 6
20. $^{1}/\_{2}$
21. Add 27.41 + 289.2 + 231
22. 54.761
23. 447.61
24. 547.612
25. 547.61
26. Simplify 348.94 – 189.76
27. 149.18
28. 259.18
29. 159.18
30. 158.18
31. 1, -1, -5, 3 and -4
32. 1
33. 3
34. -1
35. -4
36. If a6 ÷ a4 find a
37. 8
38. 10
39. 16
40. 24

The marks obtained by 10 children in a mental drill are 0, 1, 3, 3, 5, 7, 8, 9, 9, 9. Use this information to answer questions 9 to 12.

1. What is the modal mark?
2. 3
3. 7
4. 8
5. 9
6. Find the median mark?
7. 3
8. 5
9. 6
10. 7
11. Calculate the mean mark
12. -54
13. 5.4
14. 10
15. 54
16. What is the probability that a child chosen at random scored 3 marks?
17. 2/54
18. 3/54
19. 2/10
20. 3/10
21. What is the rule for the mapping below

*x* 0 1 2 3 4

 *y* 0 1 4 9 16

* 1. $x\rightarrow x+2$
	2. $x\rightarrow x+1$
	3. $x\rightarrow x^{2}$
	4. $x\rightarrow \sqrt{x}$
1. Find the value of x in an equation y = 2x + 1, If *y* is 7
2. 1
3. 2
4. 3
5. 4
6. In the diagram below, P is a set of numbers in the circle and Q is the set of numbers in the triangle. What is P n Q?

1 2

4

5

6

7

1. {1, 2, 4}
2. {5, 6}
3. {7}
4. {1, 2, 4, 5, 6, 7}
5. Given that set P = {m, n, o, p}, find the number of subsets of P.
6. 4
7. 8
8. 10
9. 16
10. Simplify -27 + 18 – (10-14) – (-2)
	1. -3
	2. -7
	3. -11
	4. -35
11. If$2^{2x}=8$, what is the value of x ?
	1. 2/3
	2. 1
	3. 3/2
	4. 2
12. State the property used in this statement P(q + r) = pq + pr
	1. associative
	2. commutative
	3. distributive
	4. identity
13. Evaluate $\frac{0.54 x 0.7}{9}$
	1. 0.0042
	2. 0.042
	3. 0.42
	4. 4.2
14. Simplify 4(x + 2) – 3(x + 1)
	1. x + 5
	2. x + 11
	3. 7x + 5
	4. 7x + 12
15. A man is 24 years old when his son was born. Now he is three times as old as his son. Find the age of the son
	1. 8 years
	2. 6 years
	3. 12 years
	4. 18 years
16. Ama is “N” years old now? How old will she be in 10 years
	1. (N – 10 years)
	2. (N + 10 years)
	3. (10 – N years)
	4. 10N years
17. Find x, if $\frac{ 1}{x}$ + $\frac{1}{3}$ =1
	1. $-^{3}/\_{2}$
	2. $-^{2}/\_{3}$
	3. $^{3}/\_{2}$
	4. $^{3}/\_{4}$
18. Solve for the inequality $x-\frac{1}{3}\geq \frac{2}{3}-x$
	1. $x\leq \frac{1}{2}$
	2. $x\leq \frac{2}{3}$
	3. $x\geq \frac{1}{2}$
	4. $x\geq \frac{2}{3}$

The pie chart shows the monthly expenditure of Mrs Mensah whose monthly salary is Ghc 18, 000.00. Use the chat to answer questions 26 to 28.



**Utilities**

1. What is the size of the angle representing savings?
	1. 40
	2. 60
	3. 130
	4. 230
2. What fraction of Mr. Mensah’s income is spent on food?
	1. $^{1}/\_{6}$
	2. $^{1}/\_{4}$
	3. $^{1}/\_{3}$
	4. $^{2}/\_{5}$
3. How much does Mr. Mensah spent on rent?
	1. Gh¢ 9,000.00
	2. Gh¢ 4,500.00
	3. Gh¢ 16,200.00
	4. Gh¢ 9, 500.00
4. Simplify $\frac{1}{2}\left(3\frac{1}{3}-1\frac{1}{6}\right)$
	1. 1 ½
	2. 2 ½
	3. 4 ½
	4. 0
5. Arrange the following from highest to the lowest: 2/3, -9, 3/5 and 0
	1. -9, $^{3}/\_{5}$, $^{2}/\_{3}$, 0
	2. -9, 0, 3/5, 2/3
	3. 3/5, 2/3, 0, -9
	4. 2/3, 3/5, 0, -9
6.  Which of the following inequalities is represented on the minutes line below?
7. -2$<$x$\leq $3
8. -2$\geq $x$>$3
9. -2$\leq $x$\leq $3
10. -2$<$x$\geq $3

Use the diagram below to answer questions 32 and 33.

80

 105

*y*

Z

P

M

N

Q

1. Find the size of the angle marked “y”
	1. 75$°$
	2. 80$°$
	3. 100$°$
	4. 105$°$
2. Angles NTZ and QZT are:
	1. alternate angles
	2. corresponding angles
	3. complementary angles
	4. supplementary angles

T

S

R

P

$$x$$

$$102°$$

$$ 2x°$$

Q

1. In the diagram below PQR is a straight line. Angle TQP = x$°$, $<$TQS = 102$°$ and $<$SQR = 2X$°$. Find the value of x
2. 78$°$
3. 39$°$
4. 34$°$
5. 26$°$
6.

$$2x$$

$$56°$$

Find the value of x in the diagram

1. 28$°$
2. 30$°$
3. 34$°$
4. 60$°$

Use the mapping below to answer question 36 to 37

 -2 -1 0 2 3 4 … X

 Y -1 1 5 7 9 21

1. Find the value of x
2. -7
3. 5
4. 6
5. 10
6. Find the value of y
7. 3
8. 1
9. -1
10. -3
11. What is the image of 3 in the mapping y = 3x + 7
12. 10
13. 13
14. 16
15. 24

The table below gives the ages of members of a juvenile club. Use it to answer question 39 and 40.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Age in years | 8 | 9 | 10 | 11 |
| frequency | 5 | 10 | 6 | 9 |

1. How many people are in the club?
2. 15
3. 20
4. 30
5. 38

40. What is the modal age of the members of the club?

1. 8 years
2. 9 years
3. 10 years
4. 11 years

**SECTION B**

Answer only four (4) questions from this section. All questions carry equal marks. All rough work should be done on the answer sheet and cancelled neatly afterwards.

1. a. Find the truth set of $\frac{2x-1}{4}$ - $\frac{2x-1}{3}$ $\leq $ 1. Illustrate your answer on the number line.

b. The sum of ages of two friends in 25. The older one is four times older than the younger one.

i. Write this as a mathematical sentence

ii. Solve for the ages of the two friends

c. The diagram below is a triangle PQR with side QR produced to S.

P

S

R

Q

2x+11

2x+19

9x

Find i) the value of x

 ii) angle PQR

1. The following are the ages (years) of children at a day care center.

3 2 1 3 4 3 4 3 2 1 3 2

1 1 4 3 2 2 3 4 2 2 1 2

2 4 3 2 3 1

1. Construct a frequency distribution table for the ages
2. Using the table, find for the distribution;
3. Mode
4. Median
5. Mean; correct to one decimal place
6. Simplify 7 2/3 – 4 5/6 + 2 3/8
7. a. Find the values of x and y in the diagram below if PQ = QR

$$124°$$

$$y°$$

$$x$$

P

R

Q

b. The pie chart below shows the distribution of footballs to six football clubs A, B, C, D, E and F. Club A was given 8000 balls.

**F**

**A**

**B**

**C**

**D**

**E**

$$60°$$

$$42°$$

$$70°$$

$$50°$$

$$80°$$

1. how many balls were given to football club C
2. find the average number of footballs given to the football clubs.

1. The marks scored by some pupils in a mathematics test are shown below:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Mark | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Frequency | 1 | 4 | 2 | 2 | 10 | 5 | 6 | 7 | 3 |

1. Draw a bar chart for the distribution
2. Find:
3. The modal marks
4. The number of pupils who failed if the pass mark is 5
5. The median mark
6. Find the rule for the mapping

X 0 3 6 9 12

Y -1 5 11 17 28

 5. a. Kwasi is twice as old as Yaw who is the then 5 years older than Adwoa. If the sum of their ages is 51 years. Find their ages

 b. Find the value of x in the diagram below.

$$4x-30$$

$$x+10$$

$$2x+30$$

 c. Find the value of x in $\frac{4x-3}{2}$ = $\frac{8x-10}{8}$ + 2$\frac{3}{4}$

 6. a. what is the rule for the mappings below

 i. x 1 2 3 4 5

 y 5 15 45 135 405

ii. x 1 2 3 4 5

 y 3 5 7 9 11

b. i. Simplify $\frac{5\frac{3}{4} ÷15\frac{1}{3}-4\frac{1}{2}×\frac{2}{15}}{\frac{1}{2}-\frac{7}{20}}$

c. In diagram below, $<$PRQ = 58$°$ and $<$PQR = 80$°$ and |SR| = |RQ|. Calculate $<$VQT

Q

T

P

R

$$58°$$

$$80°$$