**PATFIN MODEL SECONDARY SCHOOL, AKESAN, LAGOS STATE.**

**SECOND TERM EXAMINATION [ 2018 / 2019 ]**

**CLASS : J.S. S. 1**

**NAME : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ SUBJECT: Mathematics**

**INSTRUCTION : ANSWER CORRECTLY DURATION : 1 hr. 30 min**

**Answer all questions**

1. 2060.53 to the nearest thousand is \_\_\_\_\_\_\_\_\_\_. (a)2600.53 (b)2000 (c)2100 (d)206
2. Round off 6.0025 to 2 decimal places. (a)6.00 (b)6.0 (c)6.0025 (d)6.01
3. Approximate 0.035 0.045 to 1 significant figure and simplify. (a)0.02 (b)0.0016 (c)0.0015 (d)0.002
4. Convert ten to binary number. (a)10101.11 (b)11001.01 (c)10011.00 (d)101.11
5. Convert ten to a binary number. (a)0.11 (b)1.01 (c)11 (d)100
6. If x – 6 = 9, find x. (a)3 (b)15 (c)54 (d)1
7. Simplify 4x – 7y – 2x + y. (a)6x + 8y (b)6x – 8y (c)2x – 6y (d)2x + 6y
8. 80 x = 5. Find x. (a)2 (b)10 (c)16 (d)8
9. A box can hold 32 cans. how many boxes are needed to pack 800 of such cans? (a)26 (b)12 (c)12 (d)25
10. Add 111 + 110 + 1101. (a)11010 (b)10110 (c)10011 (d)11100
11. 110two + xtwo = 1000two. (a)1010two (b)10two (c)1110two (d)1000.110two
12. A supervisor at a paid factory makes N 68,800. While a forklift operator makes 56,000 a month. How much more than the operator does the supervisors make? (a)N 56,000 (b)N 68,800 (c)N 16,000 (d)N 12,800
13. A rope was 21.6m long. The following lengths were cut off from it: 4.32 and 6.42m. what length of rope is now left? (a)4.32m (b)32.34m (c)10.86m (d)6.42m
14. Simplify -21x – 8. (a)-168 (b)+168 (c)+ (d)-
15. 8 2a + 3 (a+5). (a)5a +15 (b)2a + 8 (c)7a + 3 (d)10a
16. Find the value of 9043 + 378 + 87572 +236955. \_\_\_\_\_\_\_\_\_\_
17. 100.43 83 = \_\_\_\_\_\_\_\_
18. simplified is equal to \_\_\_\_\_\_\_\_.
19. six in decimal system is \_\_\_\_\_\_\_\_\_.
20. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Answer question one (1) and any other three (3)**

1. A rectangle measures cm, what are the dimensions of this rectangle. **(10 Marks)**
2. Convert 1235six to basenine

2II. Convert 125.125ten to base two. **(4 Marks)**

1. Evaluate 110 011.101 – 100 111.11. **(6 Marks)**

3II. Find the product of 110111 and 11001. **(4 Marks)**

1. Simplify the following

I. **(3 Marks)**

II. 11x – 30 = 39 **(3 Marks)**

III. Add four fives to six sevens. **(2 Marks)**

IV. By how much is 2cm longer than 150cm? **(2 Marks)**

1. Evaluate the following: -

(I) 4 + 7 (II) 8 – 3 (III) -15(-15) (IV) – 6 – 2 (IV) 8 – (-8) (**2 Marks each)**

1. Simplify the following: -

(I) 3 (2x – 2y + 3q) – (5x + 3y – 2q) **(4 Marks)**

(II) 3 (2e – f + 3g) – (5e – 3f – 7g) **(4 Marks)**

(III) 4a (b – 2) – 2ab **(2 Marks)**

**PATFIN MODEL SECONDARY SCHOOL, AKESAN, LAGOS STATE.**

**FIRST TERM EXAMINATION [ 2018 / 2019 ]**

**CLASS : J. S. S. 2**

**NAME : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ SUBJECT: Mathematics**

**INSTRUCTION : ANSWER CORRECTLY DURATION : 1 Hour 45 Min**

**Answer all questions in this section**

1. John thinks of a number. 18 is subtracted from the number the result gives -2, what is the number? (a)18 (b)14 (c)20 (d)16
2. Evaluate 2p – (p – 2p). (a)p (b)0 (c)2p (d)3p
3. Triangle that has one of it angles to be more than 90­­­­­­­­­­­­­­­­­­­­­­­­­­o is called \_\_\_\_\_\_\_\_\_\_. (a)standard angled triangle (b)scalene angled triangle (c)right angled triangle (d)obtuse angled triangle
4. Solve = 3. (a)60 (b)40 (c)10 (d)4
5. The point where the x and y axis meet in a graph is called \_\_\_\_\_\_\_\_\_\_\_. (a)Cartesian (b)intersection (c)origin (d)ordered place
6. Solve the equation . (a)1 (b)4 (c)4 (d)5
7. The sum of angles of a point is \_\_\_\_\_\_\_\_\_\_. (a)180o (b)270o (c)360o (d)300o
8. The range of value of x for which 3x – 1 > 4x + 5 is \_\_\_\_\_\_\_\_\_\_\_. (a)x > - 4 (b)x > 4 (c)x > - 6 (d)x > 6
9. K – 9 = 5 (k – 3). What is k? (a) (b) (c) (d)
10. The value of the inequality below on the number line is
11. When 8 is added to a certain number and the sum is multiplied by 3, the result is 57. Represent the statement mathematically. (a)8(x + 3) =57 (b)3(x + 8) = 57 (c)x + 8 = 57 (d)3x (x + 8) = 57
12. How many lines of symmetry has a kite? (a)5 (b)4 (c)3 (d)1
13. An airport runway measuring 450m is drawn to a scale of 1cm to represent 100m. find its length in the drawing. (a)4.5cm (b)5.5cm (c)4.0cm (d)3.5cm
14. Which of the following pairs of figures have their diagonals equal and intersecting at their centers? (a)kite and rectangle (b)parallelogram and rhombus (c)parallelogram and kite (c)rectangle and square
15. In a Cartesian plane (-7, 2) lies within \_\_\_\_\_\_\_\_\_\_\_ quadrant equation. (a)1st (b)2nd (c)3rd (d)4th
16. A triangle with an unequal sides and unequal angles is \_\_\_\_\_\_\_\_\_\_\_\_\_.
17. By how much is 5679 less than 9532?
18. What is the inequalities that correctly interprets the diagram below?

-2 -1 0 1 2 3 4

1. Find the positive difference between the product of 78 and 36 and their sum.
2. Write 243.912 to the nearest whole number.

**THEORY**

**Answer question 1 and any other three**

1. If . Find x.

1b. When 6 is added to five times a certain number, the result is the same as when 3 is subtracted from seven times the number. Find the number.

1. Find the range of value for which

2b. When 4 is divided by (k – 2) the result is less than or equal to when 3 is divided by (2k + 1). Find the three lowest values of k.

1. Make a table of values for y = 3 – 5x for values of x from -3 to +3, using a scale of 2cm to 1 unit on the x axis and 2cm to 5 unit on the y –axis , draw the graph of y = 3 – 5x. from the graph find: -

a.)the value of y when x = 2.5

b.) the value of x when y = 5

c.) the coordinates of the points where the line cuts the axis.

1. Three cities A, B and C are located such that they are triangular in shape. AB is 32km apart, BC is 28km apart and AC 12km. using a scale of 1cm to represent 4km.

a) draw a plan showing the three cities

b) using a protractor, measure the longest angles between the cities.

1. Solve the following.

a) 4(5y + 3) -5 (3y + 1) = 27

b) x2 < 168; x is a positive square number.

c) 2n < 19; n is a positive even number.

**PATFIN MODEL SECONDARY SCHOOL, AKESAN, LAGOS STATE.**

**SECOND TERM EXAMINATION [ 2018 / 2019 ]**

**CLASS : J.S. S. 3**

**NAME : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ SUBJECT: Mathematics**

**INSTRUCTION : ANSWER CORRECTLY DURATION : 1 hr. 30 min**

**Answer all questions**

1. Yemi saves N150 daily. How much will he save in two weeks? (a)N300 (b)N1050 (c)N2100 (d)N1500
2. A basket contains 400 oranges and 40 are bad. What is the percentage if the good ones? (a)90% (b)100% (c)80% (d)60
3. Find the difference between 3 and . (a)3 (b) (c) (d)3
4. Calculate the simple interest on N6,000 for 3 years at 12%. (a)N1,500 (b)N1,800 (c)N2,160 (d)N2,400
5. If p = , find the value of p. (a)6 (b)12 (c)24 (d)48
6. Express to the lowest form. (a) (b) (c) (d)
7. Express 0.00419 in standard form. (a)4.1910-4 (b) 4.1910-3 (c) 4.1910-2 (d) 4.1910-1
8. Simplify 1200. (a)10000 (b)100 (c)10 (c)1
9. The sum of two numbers is 17 and their difference is 3. Find the numbers? (a)10 and 7 (b)-10 and 7 (c)-10 and – 7 (d)10 and -7
10. Express 45 minutes as a fraction of an hour. (a) (b) (c) (d)
11. What is the sum of the binary numbers: 1101, 1110 and 1001. (a)100000 (b)100010 (c)100100 (d)100110
12. Change the number 110010two to base ten. (a)20ten (b)18ten (c)17ten (d)15ten
13. The sum of 8 and a certain number is equal to the product of the number and 3. Find the number. (a)8 (b)6 (c)4 (d)2
14. Approximate 9395 to 2 significant figures. (a)9000 (b)9300 (c)9390 (d)9400
15. Write 123, 456 in words (a)One Million, Twenty-Three Thousand, Four Hundred And Fifty-Six. (b)One Hundred Twenty-Three Thousand, Four Hundred and Fifty-Six (c)One Hundred and Twenty-Three Thousand, Four, Five, Six. (d)One Thousand, Two Hundred and Fifty-Five Thousand and Six
16. Simplify. (a)3 (b)3 (c)3 (d)
17. Express 6 as an improper fraction. (a) (b) (c) (d)
18. The sum of angles at a point is \_\_\_\_\_\_\_\_\_. (a)180o (b)270o (c)300o (d)360o
19. find the value of . when w = -3 and v = -5. (a) (b) (c) (d)
20. solve this equation. 5x + 5 = 26 + 2x . (a)4 (b)5 (c)6 (d)7
21. simplify . (a) (b) (c) (d)
22. solve 5x + 5 = 66 + 2x/ (a)4 (b)5 (c)6 (d)7
23. if k – q = 5(k-3), what is k? (a) (b) (c) (d)
24. the value of the 4 in 26.645 is \_\_\_\_\_\_\_\_\_\_\_\_\_ (a)4 thousandth (b)4 hundredths (c)4 tenths (d)4 units
25. convert to decimal fraction and give your answer to 4 decimal places. (a)0.3330 (b)0.3333 (c)0.3334 (d)0.3444
26. a ladder, 13cm long leans against a wall. If the foot of the ladder is 5cm from the wall, calculate how far up the wall the ladder reaches. (a)8cm (b)12cm (C)18cm (d)65cm
27. the point where the x and y axis meet in a graph is called \_\_\_\_\_\_\_\_\_\_\_\_\_. (a)Cartesian (b)intersection (c)ordered pair (d)origin
28. if 15 men dig a trench for 10 days, how many men will be required to dig the trench in 2 days? (a)150 men (b)75 men (c)60 men (d)30 men
29. simplify 111112 +101102. (a)1000012 (b)1001012 (c)1101012 (d)111102
30. Mr. Ojo made a profit of 32% on an article he bought for N3, 200.00. how much did he sell the article? (a)N1024.00 (b)N2176.00 (c)N3,200.00 (d)N4,224.00
31. Evaluate 2p – (p – 2p). (a)0 (b)p (c)2p (d)3p
32. Find the unknown angle in the figure below.
33. If 2xo and 4xo are supplementary, what is the value of x? (a)75o (b)15o (c)45o (d)60o
34. Find the highest common factor of 325,350 and 375. (a)13 (b)15 (c)21 (d)25
35. Express 6561 as a product of primes in index form. (a)93 (b)95 (c)94 (d)97
36. Which of these is not a plane shape? (a)sphere (b)polygon (c)triangle (d)trapezium
37. Triangle that has one of its angles to be more than 90o is called \_\_\_\_\_\_\_\_\_\_\_. (a)standard angle triangle (b)obtuse angle triangle (c)acute angle triangle (d)right angle triangle
38. Factorise 24pz – 8pr. (a)8p(3z – r) (b)8p(z – 3r) (c)8p(4z – r) (d)8p(z + 3r)
39. Find the area of triangle of sides 5cm, 6cm, and 7cm. (a)11cm2 (b)18cm2 (c)21cm2 (d)147cm2
40. A hollow cuboid measures 60cm by 15cm by 20cm. how many litres can it hold? (1 litre = 1000cm2) (a)1.8 litres (b)18 litres (c)180 litres (d)18000 litres
41. Solve = 3. (a)60 (b)10 (c)4 (d)40
42. The lowest common denominator of , , and is \_\_\_\_\_\_\_\_\_\_\_\_. (a)30 (b)90 (c)900 (d)15
43. Vertically opposite angles \_\_\_\_\_\_\_\_\_\_\_\_\_. (a)are alternate (b)add up to 180o (c)add up to 360o (d)are equal
44. A box has a square base of side 9cm. calculate the volume of the box if it is 10cm high. (a)90cm3 (b)27cm3 (c)81cm3 (d)810cm3
45. A straight line joining two points on the circumference of a circle and passing through the centre of the circle is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_. (a)chord (b)diameter (c)radius (d)segment

What is the value of a + b + c + d in the figure. (a)90o (b)180o (c)270o (d)360o

1. Write 20in a mixed fraction. (a)2 (b)2 (c)2 (d)2
2. Solve the simultaneous equations of x + y = 8, and x – y = 2. (a)x =3, y =5 (b)x =-3, y = -5 (c)x = 5, y = -3 (d)x = 5, y =3
3. Find the area of a parallelogram with 8cm and vertical height 5cm. (a)80cm2 (b)40cm2 (c)26cm2 (d)13cm2
4. find the perimeter of a rectangle with length 11m and its area is 99cm2. (a)40cm (b)38cm (c)21cm (d)22cm
5. calculate the perimeter of a triangle in (cm) whose dimensions are 1m 60cm, 1m 80cm and 2m.
6. a prime has only two factors which are \_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_. (a)1 and any other number (b)2 and 3 (c)1 and 2 (d)itself and 1
7. make r the subject of the formula. (a)r = (b)r = (c)r = (d)r =
8. simplify + . (a) (b) (c) (d)
9. find the coefficient of y in the expansion of (2y – 1) (y – 6). (a)-13 (b)-12 (c)+12 (d)+13
10. write the sum of MC and CD in Hindu – Arabic. (a)1100 (b)1300 (c)1500 (d)1700
11. Mr. Rze bought a new plasma TV for N75000.00. later he sold it for N45000.00. calculate the percentage loss. (a)30% (b)40% (c)50% (d)60%
12. Factorise: 1 – (a – b)2 (a) (1 - a – b) (1 – a + b) (b) (1 – a + b) (1 + a – b) (c) (1 – a + b) (1+ a + b) (d) (1 + a + b) (1 + a – b)
13. Study the table below to answer question 59 and 60. Given that y = 2x + 2 and ranging from -2 x 6

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **X** | **-2** | **-1** | **0** | **1** | **2** | **3** | **4** | **5** | **6** |
| **Y** |  | **0** | **2** | **4** | **6** | **8** | **10** | **12** | **14** |

1. The equation of the table of value is a typical example of \_\_\_\_\_\_\_\_\_\_\_ equation. (a)trigonometry (b)simultaneous (c)quadratic (d)linear

**THEORY**

**Answer all questions**

1. Solve the equation = leaving your answer in mixed fraction

1b. Calculate the simple interest on N 60,000.00 for 3 years at 5% per annum.

1. Solve the equation =

2b. Convert 1111001.1101two to base ten.

1. 6 + of 3

3b. Make k the subject of the formula T =

1. A boy sighted the school’s flag at a point which is 20m from the foot of the pole, and due East of the pole if the angle of elevation of the top of the flag pole from the boy is 21o, find the height of the flag pole.

[Sin 210 = 0.3544 Cos 21o = 0.9336 Tan 21 = 0.3339]