**SUBJECT: MATHEMATICS CLASS: S.S.S. 3 TIME: 2HRS**

***OBJECTIVE TEST***

***INSTRUCTION: Answer all the questions***

***Mathematical tables may be used in any question***

***Now, answer the following questions***

1. Correct 0.005854 to 2 significant figures (a) 0.0058 (b) 0.0059 (c) 0.0060 (d) 0.0100. ESTIMATION A& APPROX
2. Simplify: 3½ - 11/3 x 25/8 (a) 0 (b) ½ (c) 1 (d) 2.
3. Find the sum of 3035 and 1045. (a) 4125 (b) 4025 (c) 2445 (d) 1445. NUMBER BASE
4. If 2√5 + √125 - √45 + 4 = a + b√c, evaluate (2a-b). (a) 8 (b) 4 (c) 2 (d) 0. SURD
5. A petrol tank will take a factory 30 week when it uses 150 litres per day. How many weeks will it take the factory if it decides to use 500 litres per day? (a) 30 (b) 25 (c) 15 (d) 100

MEASUREMENT & SOLIDS

1. The nth term of the sequence 5, 8, 11 \_\_\_\_\_\_\_\_\_ is 383. Find n. (a) 125 (b) 126 (c) 127 (d) 194. SEQUENCE
2. A quantity z varies directly as the square root of x and inversely as the cube of s. if z = 8. When x = 4 and s = ½, express z in term of x and s (a) z = 2√x/S3 (b) z = √x/S3 (c) z = 2s3/√x (d) z = √x/2s3. VARIATION
3. If 3x – y = 5 and 2x + y = 15, evaluate x2 + 2y (a) 29 (b) 30 (c) 42 (d) 35. ALGEBRAIC PROCESS.
4. What is gradient of the line joining point [2, 5] and [5, 14]? (a) 5 (b) 4 (c) 3 (d) 2. COORDINATE GEOMETRIC
5. A car covers 180m in [t-1] seconds and 324m in [t + 3] seconds. If it is travelling at a constant speed, calculate the value of *t*. (a) 8 (b) 6 (c) 5 (d) 4. ALGEBRAIC PROCESS

In the diagram PR is a diameter, |PQ| = 15cm and |QR| = 8cm. Use the information to answer question 11 and 12.

P

R

Q

15cm

8cm

CIRCLE GEOMETRY

1. Calculate the area of triangle PQR. (a) 23cm2 (b) 60cm2 (c) 68cm2 (d) 120cm2. GEOMETRY
2. Calculate the perimeter of the semi circle of radius 21cm [Take  = 22/7] (a) 66cm (b) 47cm (c) 60cm d.35cm
3. A bicycle wheel covers 100cm in one revolution. Find in terms of , the radius of the wheel. (a) 50/cm (b) 100/cm (c) 50cm (d) 100cmm. MENSURATION

R

S

T

P

730

Q



CIRCLE GEOMETRY

In the diagram, TP is a tangent to the circle PQRS and <RPT = 730. Find <PQR. (a) 1460 (b) 1340 (c) 1130 (d) 1070.

1. If sin x = 1/3, 00 < x < 900, calculate the value of cos x. (a) 1/8 (b) 2/5 (c) √2/3 (d) 2√2/3. TRIGONOMETRY
2. A ship sails 5km due west and them 77m due south. Find, correct to the nearest degree, its bearing from the original position. (a) 0550 (b) 0560 (c) 2150 (d) 2160. BEARING
3. The semi-interquartile range of a distribution is 20. If the upper quartile is 96, find the lower quartile. (a) 56 (b) 50 (c) 46 (d) 40.STATISTICS
4. The sum of the interior angles of an n-sided polygon is 16200. Find n. (a) 9 (b) 10 (c) 11 (d) 12.MESURATION & GEOMETRY

L

N

M



130o

In the diagram, 0 is the centre of the circle, LM is a tangent and angle MON is 1300. Find the size of angle OLM. (a) 650 (b) 500 (c) 450 (d) 400. CIRCLE GEOMETY

1. IF ½p + q = 1 and p – ½q = 7, Find (p + q). (a) -8 (b) -4 (c) 4 (d) 8. ALGEBRAIC PROCESS
2. Simplify: 1/x + 5 – 2(x + 2)/x2 – 25 (a) x + 9/x2 – 25 (b) x – 9/x2 – 25 (c) –x + 9/x2 – 25 (d) –x – 9/x2 – 25.
3. The ratio of the area of the base of a cylinder to the curved surface area of the cylinder is 1:4. If the radius of the cylinder is 4cm, find the height of the cylinder. (a) 1cm (b) 2cm (c) 4cm (d) 8cm.
4. Find the common factors of (9r2 – 16s2) and (12r + 16s). (a) 4(3r + 4s) (b) 4(3r - 4s) (c) 3r – 4s) (d) (3r + 4s).
5. The height of a triangular prism is 6cm. if the cross section of the prison is an equilateral triangle of side 8cm, find its volume. (a) 96√3cm3 (b) 64√3cm3 (c) 32√3cm3 (d) 16√3cm3.
6. The interior angles on the same side of a transversal on two parallel lines are (a) equal (b) obtuse (c) complementary (d) supplementary.
7. The average of 5 numbers is 40six. Find the sum of the numbers in base six. (a) 200six (b) 260six (c) 300six (d) 320six.
8. If 5x = n, express 25x-1 in terms of n. (a) 25n2 (b) 5 + n2 (c) 25 + n2 (d) 5n2.
9. Simplify: m2 – n2/n – m (a) m + n (b) –m – n (c) –m + n (d) m – n.
10. Find the dimensions of a rectangle whose perimeter and area are 46cm and 112cm2, respectively. (a) 16cm by 7cm (b) 17cm by 6cm (c) 14cm by 9cm (d) 12cm by 11cm.
11. Given that p = {2, 4, 6, 7} and Q = {1, 2, 4, 8}. If a number is selected at random from pUQ, find the probability that it is only in set p. (a) 2/3 (b) ½ (c) 1/3 (d) 1/6.
12. If {x: 2 ≤ x ≤ 18; x  integer} and 7 + x = 4 (mod 9), find the highest value of x. (a) 2 (b) 5 (c) 15 (d) 18.
13. The sum of 110112, 111112 and 100002. Find the values of m and n. (a) m = 0, n = 0 (b) m = 1, n = 0 (c) m = 0, n = 1 (d) m = 1, n = 1.
14. A trader bought an engine for $15,000.00 outside Nigeria. If the exchange rate is $0.075 to N1.00, how much did the engine cost in naira? (a) N250,000.00 (b) N200,000.00 (c) N150,000.00 (d) N100,000.00.
15. If 27x x 31-x/92x = 1, find the value of x. (a) 1 (b) ½ (c) -½ (d) -1.
16. Find the 7th term of the sequence: 2, 5, 10, 17, 26, \_\_\_\_\_\_\_\_\_ (a) 37 (b) 48 (c) 50 (d) 63.
17. Given that logx 64 = 3, evaluate x log28. (a) 6 (b) 9 (c) 12 (d) 24.
18. If 2n = y, find 2 (2 + n/3) (a) 4y1/3 (b) 4y-3 (c) 2y1/3 (d) 2y-3.
19. Factorize completely : 6ax – 12by – 9ay + 8bx. (a) (2a – 3b)(4x + 3y) (b) (3a + 4b)(2x - 3y) (c) (3a – 4b)(2x + 3y) (d) (2a + 3b)(4x – 3y).
20. Find the equation whose roots are ¾ and -4. (a) 4x2 – 13x + 12 = 0 (b) 4x2 – 13x – 12 = 0 (c) 4x2 + 13x – 12 = 0 (d) 4x2 + 13x + 12 = 0.
21. If m = 4, n = 9 and r = 16, evaluate m/n – 17/9 + n/r. (a) 15/16 (b) 11/16 (c) 5/16 (d) -37/48.
22. Adding 42 to a given positive number gives the same result as squaring the number. Find the number. (a) 14 (b) 13 (c) 7 (d) 6.
23. Ada draws the graphs of y = x2 – x – 2 and y = 2x – 1 on the same axes. Which of these equations is she solving? (a) x2 – x – 3 = 0 (b) x2 – 3x – 1 = 0 (c) x2 – 3x – 3 = 0 (d) x2 + 3x – 1 = 0.
24. The volume of a cone of height 3cm is 38½cm3. Find the radius of its base. [Take  = 22/7] (a) 3.0cm (b) 3.5cm (c) 4.0cm (d) 4.5cm.
25. A sector of a circle with radius 6cm subtends an angle of 600 at the centre. Calculate its perimeter in terms of . (a) 2( + 6)cm (b) 2( + 3)cm (c) 2( + 2)cm (d) ( + 12)cm.
26. The dimensions of rectangular tank are 2m by 7m by 11m. If its volume is equal to that of a cylindrical tank of height 4cm, calculate the base radius of the cylindrical tank. [Take  = 22/7]. (a) 14m (b) 7m (c) 3½m (d) 1¾m.
27. Given that tan x = 2/3, where 00 ≤ x ≤ 900, find the value of 2 sin x. (a) 2√13/13 (b) 3√13/13 (c) 4√13/13 (d) 6√13/13.
28. PQRS is a square. If X is the midpoint of PQ, calculate, correct to the nearest degree, <PXS. (a) 530 (b) 550 (c) 630 (d) 650.
29. The angle of elevation of an aircraft from a point K on the horizontal ground is 300. If the aircraft is 800m above the ground, how far is it from K? (a) 400.00m (b) 692.82m (c) 923.76m (d) 1,600.00m.
30. The population of students in a school is 810. If this is represented on a pie chart, calculate the sectoral angle for a class of 72 students. (a) 300 (b) 450 (c) 600 (d) 750.
31. The scores of twenty students in a test are as follows: 44, 47, 48, 49, 50, 51, 52, 53, 53, 54, 58, 59, 60, 61, 63, 65, 67, 70, 73, 75. Find the third quartile. (a) 62 (b) 63 (c) 64 (d) 65.

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