

**SINDHI HIGH SCHOOL, BENGALURU**

**HALF YEARLY EXAMINATION [2023-24]**

**SUBJECT: MATHEMATICS Max Marks: 80**

**Class: VIII Duration: 3 hrs 15 mins**

**Date: 05 /10/2023 Reading Time: 15mins**

**No of Sides: 6 Writing Time: 3 hrs**

**GENERAL INSTRUCTIONS:**

* This Question Paper has 5 Sections qA, B, C, D and E.
* Section A has 20 MCQs carrying 1 mark each
* Section B has 5 questions carrying 02 marks each
* Section C has 6 questions carrying 03 marks each.
* Section D has 4 questions carrying 05 marks each.
* Section E has 3 case based integrated units of assessment (04 marks each) with sub- parts of the values of 2, 1, and 1 marks each respectively.
* All Questions are compulsory.
* Draw neat figures wherever required.

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|  | **Section A** |  |
|  | **Section A consists of 20 questions of 1 mark each.** |  |
| 1 | The square of 64 is:  a) 8 b) 4096 c) -8 d) -4096 | **1** |
| 2 | The value of p in the equations is 17 + 6p = 9 :  a) b) c) d) | **1** |
| 3 | A coin was tossed 200 times and head appeared 120 times. The probability of getting a head in this experiment is :  a) b c) d) | **1** |
| 4 | The multiplicative inverse of -1 x is :  a) b) c) d) | **1** |
| 5 | The sum of interior angle of a convex polygon with number of sides 7 is:  a) 9000 b) 10800 c) 14400 d) 7200 | **1** |
| 6 | If x and y are in inverse variation, then:  a. (x + y) is a constant b. (x – y) is a constant  c. xy is a constant d. is a constant | **1** |
| 7 | Which of the following a linear equation in one variable?  a) 5x-3<2 b) 3√x - 4 = 6  c) 2x2 + 7 =15 d) 4x + 3 = 8 |  |
| 8 | 1000 sweets were kept in 20 boxes equally. How many same type of boxes are required if there were 4000 same sweets? (a) 10 (b) 20 (c) 80 (d) 60 | **1** |
| 9 | The name of a regular polygon of 4 sides is:  a) rectangle b) triangle c) pentagon d) square | **1** |
| 10 | The associative property is applicable to :  a) addition and multiplication  b) addition and subtraction  c) subtraction and division  d) multiplication and division | **1** |
| 11 | Monthly salary of a person is Rs 15000. The central angle of the sector representing his expenses on food and house rent on a pie chart is 600.  The amount he spends on food and house rent is:  a) Rs 5000 b) Rs 2500 c) Rs 6000 d) Rs 9000 | **1** |
| 12 | The measures of the three angles of a quadrilateral are 65°, 75° and 85°. The measure of the fourth angle is:  a) 1250 b) 1350 c) 1550 d) 1600 | **1** |
| 13 | The digit in the “ones place” of the square of 1234 is:  a) 8 b) 2 c) 6 d) 3 | **1** |
| 14 | The sum of the measure of exterior angle of any polygon is :  a) 3600 b) 7200 c) 10800 d) 1800 | **1** |
| 15 | The number of perfect square number between 30 and 40 is:  a) 1 b) 2 c) 60 d) 80 | **1** |
| 16 | A dice is rolled once. The probability that the number on top will be a multiple of 3 is  a) b) c) d) | **1** |
| 17 | If 56 men can do a piece of work in 42 days, how many men will do it in 14 days? (a) 165 (b) 166 (c) 168 (d) 164 | **1** |
| 18 | The measure of angle x in the given figure is:  a) 1100  b) 900  c) 1800  d) 500 | **1** |
|  | ***Directions for question 19 and 20.***  ***In question 19 and 20, Statements of Assertion(A) is followed by Reason(R). Choose the correct option.*** |  |
| 19 | Assertion: Rational Numbers are not closed under Addition.  Reason: A rational number is a number in the form of , where p and q are integers, and q is not equal to 0.  (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).  (b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).  (c) Assertion (A) is true but reason (R) is false.  (d) Assertion (A) is false but reason (R) is true. | **1** |
| 20 | Assertion: The standard form of linear equation in one variable is ax + b = 0, where a is a non-zero real and b is any real.  Reason: x is a variable and b is a constant.  (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).  (b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).  (c) Assertion (A) is true but reason (R) is false.  (d) Assertion (A) is false but reason (R) is true. | **1** |
|  | **SECTION-B** |  |
|  | **Section B consists of 5 questions of 2 marks each** |  |
| 21 | Observe the following table and find if x and y are in direct variation(show the working)   |  |  |  |  |  | | --- | --- | --- | --- | --- | | X | 5 | 8 | 12 | 15 | | Y | 15 | 24 | 36 | 60 | | **2** |
| 22 | Fill in the blank and name the property used:  a) + \_\_\_\_\_ = + ( )  b) ( x ) x = x ( x \_\_\_) | **2** |
| 23 | In a hostel of 50 girls, there are food provisions for 40 days. If 30 more girls join the hostel, how long will these provisions last? | **2** |
| 24 | Find the smallest square number that is divisible by each of the numbers 8, 15 and 20. | **2** |
| 25 | Find the measure of each interior angle of a regular polygon of 10 sides. | **2** |
|  | **SECTION-C** |  |
|  | **Section C consists of 6 questions of 3 marks each** |  |
| 26 | Draw all the diagonals of a hexagon. | **3** |
| 27 | The number of students in a hostel, speaking different languages is given below. Display the data in a bar graph.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Language | Hindi | English | Kannada | Tamil | Telugu | | No of students | 40 | 12 | 9 | 7 | 4 | | **3** |
| 28 | Find the square root of 176.0929 by division method. | **3** |
| 29 | If x and y are in inverse proportion. Find the value of A, B and C in the table:   |  |  |  |  |  | | --- | --- | --- | --- | --- | | X | 25 | 15 | B | 10 | | Y | 3 | A | 4 | C | | **3** |
| 30 | Solve and verify using Distributive property :  { x ()} + { x } | **3** |
| 31 | The measures of two adjacent angles of a parallelogram are in the ratio 3:2. Find the measure of each angle of the parallelogram. | **3** |
|  | **SECTION-D** |  |
|  | **Section D consists of 4 questions of 5 marks each** |  |
| 32 | Draw a pie chart of the data given below. The time spent by a child during a day.   |  |  | | --- | --- | | ACTIVITY | NO OF HOURS | | Sleep | 8 | | School | 6 | | Home work | 4 | | Play | 4 | | TV | 2 | | **5** |
| 33 | Solve and verify : Solve: = | **5** |
| 34 | (i) In the given figure, RISK and CLUE are parallelograms, find the value of angle x | **5** |
| 35 | Find the square root of | **5** |
|  | **SECTION-E** |  |
|  | **Section E consists of 3 case study based questions.** |  |
| 36 | A **shadow** is a dark area where [light](https://en.wikipedia.org/wiki/Light) from a light source is blocked by an object. It occupies all of the three-dimensional volume behind an object with light in front of it.  The length of the shadows are directly proportional to the heights.  How to place an object such that the 'sun' gives a shadow of said object on  a wall - SketchUp - SketchUp Community  i) A water tank casts a shadow 21 m long. A tree of height 12 m casts a shadow 6 m long at the same time. Find the height of the tank.  ii) What is the value of the proportionality constant here?  iii) If the height of a boy is 90 cm what will be the length of the shadow casted at the same time | **4** |
| 37 | Kids have an innate love for ice cream that can be attributed to a variety of factors, from the first lick of a chocolate ice cream cone to the last spoonful of sundae ice cream. Their love for the ice cream is one of the major reasons behind the continuing high demand for the dessert  A survey of favourite ice-cream flavour among students of two different grades was conducted and depicted in the graph given below. Answer the questions based on the graph.    i) Mention the scale used in the graph and give a suitable title for it.  ii) Which flavour was liked the most by grade 1 students and which flavour was liked the least by grade 2 students?  iii) How many students of grade 1 and how many of grade 2 students were surveyed? | **4** |
| 38 | Chewing bones is also pleasurable for dogs. It alleviates boredom and satisfies their innate urge to chew. Chewing can also stimulate the release of endorphins, which are the hormones associated with happiness. Dogs also get dental benefits from chewing bones.  Dog Bone PNG Transparent Images Free Download | Vector Files | PngtreeA dog buried three bones in the backyard. The first bone is buried feet, the second bone is buried -5 feet and the third bone is buried feet.  i) Simplify : x -5 x  ii) How much deeper is the third bone buried from the first bone?  iii) What is the additive inverse of -5 and ?  **\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*** | **4** |