

PART I

• ANSWER ALL QUESTIONS

1. Which of these two letters in the Sinhala Alphabet have bilateral symmetry



2. Does the letter Z from the English Alphabet have bilateral symmetry.
3. How many axes of symmetry are there in a circular shape.
4. The items that belong to a set are defined as _____
5. Can "Beautiful flowers" be defined as a set.
6. Write the set $P = \{ \text{triangular numbers from 1 to 10} \}$
7. Simplify $20 \div 10 \times 7$
8. How many digits are there in a Digital Root?
9. What is the digital root of 15875
10. Is 2394 divisible by 9?
Is 2394 divisible by 6?

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11. If a number is divisible by both 2 and 3 without a remainder, by what other number will it be divisible?
12. Write all the factors of 36.
13. Write 125 as a product of prime factors.
14. Expand and write the following expression as a product
 $3^3 p^2$
15. Find the value of $3a^2 + 4$ when $a = (-2)$.
16. To which century does the year 2016 belong?
17. Is the year 1300 a leap year?
18. What is the last year of the 20th Century?
19. Name two objects in the classroom which have parallel edges.
20. The constant distance between two parallel straight lines is given a special name. What is it?

PART II

ANSWER ALL QUESTIONS

1. i) Draw 2 bilaterally symmetric figures having only 2 axes of symmetry.
- ii) Draw the axes of symmetry of the two above figures using dotted lines.

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2. 1. Write the letters of the word "DIAGRAM" as a set within curly brackets.
ii. Represent the above set in a Venn diagram.
iii. $P = \{6, 12, 18, 24, 30\}$

Write down the set P in terms of a common property of its elements by which the elements can be clearly identified.

- iv. $S = \{\text{square numbers less than } 10\}$
Represent the set S by a Venn diagram.

3. State whether the following are (\checkmark) or (\times)
- i. 2, 3, 5, 7 are prime numbers less than 10. ()
 - ii. $15 + 3 \times 4 = 72$ ()
 - iii. The H.C.F. of any two or more prime numbers is always 1. ()
 - iv. 3, 5, 7 are factors of 8. ()
 - v. The H.C.F. of any two positive numbers is less than their L.C.M. ()
 - vi. The year 1996 is not a leap year ()
 - vii. The first day of the 22nd Century is 2101-01-01 ()
 - viii. A period of 100 years is called a decade ()
 - ix. The horizontal bars (steps) of a ladder are an example where parallel edges are seen in the environment. ()
 - x. The edges which represent the breadth of a parallelogram are not parallel ()

4. i. Find the H.C.F. of 28, 42, 50 by writing them as products of their prime factors.
- ii. Find the L.C.M. of 12, 16, 20 by the method of division
- iii. Write down the following as a product of powers with prime numbers as bases
- 40
 - 120
 - 200

5. i. $34 \square 7$ is a four digit number divisible by 3 without a remainder

Write down suitable digits for the empty space.

- ii. a). Find the digital index of 3024
- b). Give reasons separately as to why 3024 is divisible by both 3 and 4.

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6. A). Using a straight edge and a set square draw
- i.) A pair of vertically parallel lines.
 - ii.) A pair of horizontal parallel lines
 - iii.) A pair of slanted parallel lines

- B). Using only a straight edge and a set square
- i.) Draw a straight line segment AB such that $AB = 6\text{cm}$
 - ii.) Draw a straight line segment AC such that it forms an acute angle BAC at A and $AC = 4\text{cm}$.
 - iii.) Draw a straight line through C parallel to AB in the direction of B .
 - iv.) Mark the point D on the straight line such that $CD = 6\text{cm}$
 - v.) Using the straight edge complete the closed figure
 - vi.) What is the special name given to the figure $ABCD$