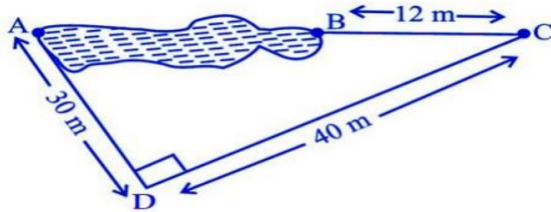


VIKAS BHARATI PUBLIC SCHOOL**Sample Paper (Session 2023-24)****Class: VIII****Subject: MATHEMATICS****Time : 2 Hr 30 min.****M.M : 60**

- Note:** 1. This question paper contains 5 printed pages and 34 questions.
2. All questions are compulsory.

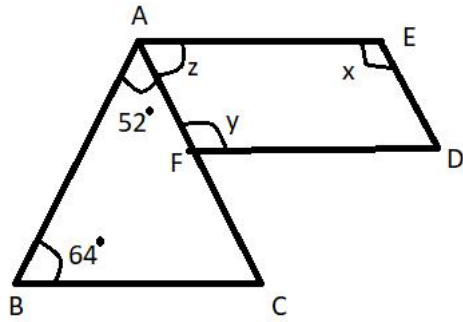
| Section – A (All questions are compulsory. In MCQ write the correct option with complete answer.) | | | |
|---|--|--|---|
| 1. | The sum of angles of concave quadrilateral is a) more than 360^0 b) less than 360^0 c) equal to 360^0 d) twice of 360^0 | | 1 |
| 2. | The greatest common factor of $4x^3y$ and $2xy^2$ is a) $2xy$ b) x^2y^2 c) xy^2 d) xy | | 1 |
| 3. | Which of the following is not an algebraic expression? a) $7 + x^2y$ b) $y^2 + 5 = 6$ c) $8 + \frac{5}{x}$ d) $2xy^4$ | | 1 |
| 4. | Value of $(2s - 3)(2s + 5)$ is a) $4s^2 - 4s - 15$ b) $4s^2 + 4s - 15$ c) $4s^2 + 4s + 15$ d) $4s^2 - 4s + 15$ | | 1 |
| 5. | Area of rhombus whose base is 5 cm and altitude is 4.8 cm is a) 23 cm^2 b) 45 cm^2 c) 24 cm^2 d) 34 cm^2 | | 1 |
| 6. | The product of a , $-a^2$, $6abc$ and $\frac{5}{a}$ is a) $-30a^3bc$ b) $6a^3bc$ c) $-30 ab^3c$ d) $5ab^3c$ | | 1 |
| 7. | x varies directly as y^2 . Given that $x = 3$ when $y = 4$, then value of x when $y = 6$ will be a) $\frac{4}{27}$ b) $\frac{27}{4}$ c) $\frac{9}{8}$ d) $\frac{8}{9}$ | | 1 |
| 8. | $2x + y$ is an _____ expression. a) cubic b) algebraic c) quadratic d) none of these | | 1 |
| 9. | Multiplicative inverse of 2^7 is a) 2^{-7} b) 2^7 c) 7^2 d) -2^7 | | 1 |
| 10. | What is the distance AC? | | 1 |



- a) 50 m b) 12 m c) 100 m d) 70 m

| | | |
|---|---|---|
| 11. | <p>If the radius of a cylinder is r and the height is h, how will the volume change, if the height is doubled and radius is halved.</p> <p>a) volume become doubled b) volume become half c) volume become one-fourth d) volume become 4 times</p> | 1 |
| 12. | <p>The standard form for 0.000064 is</p> <p>a) 64×10^4 b) 64×10^{-4} c) 6.4×10^5 d) 6.4×10^{-5}</p> | 1 |
| 13. | <p>If $\sqrt{9216} = 96$, then evaluate $\sqrt{92.16} + \sqrt{0.9216}$.</p> <p>a) 12.45 b) 10.56 c) 10.65 d) 12.54</p> | 1 |
| 14. | <p>Which of the following is not a polynomial?</p> <p>a) $x^2y + 2$ b) $2p + q + 5$ c) $\frac{2}{x} + y^2$ d) none of these</p> | 1 |
| 15. | <p>Square of $(a - 2b)$ is</p> <p>a) $a^2 - 4ab + 4b^2$ b) $a^2 + 4ab + 4b^2$ c) $a^2 - 4ab - 4b^2$ d) $a^2 + 4ab - 4b^2$</p> | 1 |
| 16. | <p>State True or False :</p> <p>i) If $\sqrt[3]{121} = 11$, then $\sqrt[3]{1.21} = 1.1$</p> | 1 |
| | <p>ii) Every polynomial is an algebraic expression but vice-versa is not true.</p> | 1 |
| 17. | <p>Fill in the Blanks.</p> | 3 |
| | <p>i) The shifting of a term from one side of an equation to other side is called _____</p> | |
| | <p>ii) The product of a monomial and a binomial expression is a _____</p> | |
| | <p>iii) A graph that displays data that changes continuously over periods of time is _____</p> | |
| <p>Section – B (Do any 6 questions from Q18 to Q24. Over attempt will not be evaluated.)</p> | | |
| 18. | <p>If the radius of cylinder is doubled and height remains same, then volume will also be doubled. Is it true or false? Justify your answer.</p> | 2 |

| | | |
|--|---|---|
| 19. | Is $(\frac{1}{3} + \frac{1}{4} + \frac{1}{5})^0 = 1$? Justify your answer. | 2 |
| 20. | Can the value of mn be 70 where $m - n = 16$ and $m^2 + n^2 = 400$? Show the steps to justify your answer. | 2 |
| 21. | Is rhombus a regular quadrilateral? State the reason. | 2 |
| 22. | Is $x^2 + \frac{1}{x^2} = 9$ where $x + \frac{1}{x} = 3$? Show the steps to justify your answer. | 2 |
| 23. | Can the product of $(a^2 + ab + b^2)(a - b)(a + b)$ be binomials? Show the steps to justify your answer. | 2 |
| 24. | Does the value of $x = 200000$ satisfy the given equation $\frac{x}{2} + \frac{x}{4} + \frac{x}{5} + 10000 = x$? Justify. | 2 |
| Section – C (Do any 4 questions from Q25 to Q29. Over attempt will not be evaluated.) | | |
| 25. | A contractor undertook a contract to complete a part of a stadium in 9 months with a team of 560 persons. Later on, it was required to complete the job in 5 months. How many extra persons should he employ to complete the work? | 3 |
| 26. | Factorize the numerator and find the quotient : $\frac{y^2 + 24xy + 144x^2}{12x + y}$ | 3 |
| 27. | Subtract the sum of $3x^2 + 5xy + 7y^2 + 3$ and $2x^2 - 4xy - 3y^2 + 7$ from the product of $(x + 4y)$ and $(x - 5y)$. | 3 |
| 28. | The thickness of a hollow metallic cylinder is 2 cm. It is 70 cm long with outer radius of 14 cm. Find the volume of the metal used in making the cylinder, assuming that it is open at both the ends. Also find its weight if the metal weighs 8 g per cm^3 . | 3 |
| 29. | Find the least number that must be subtracted from 4568 to make it a perfect square. Also find the square root of the resulting number. | 3 |
| Section – D (Do any 3 questions from Q30 to Q33. Over attempt will not be evaluated.) | | |
| 30. | In the following figure, $FD \parallel BC \parallel AE$ and $AC \parallel ED$. Find the value of x , y and z . Is AFDE a parallelogram? | 4 |

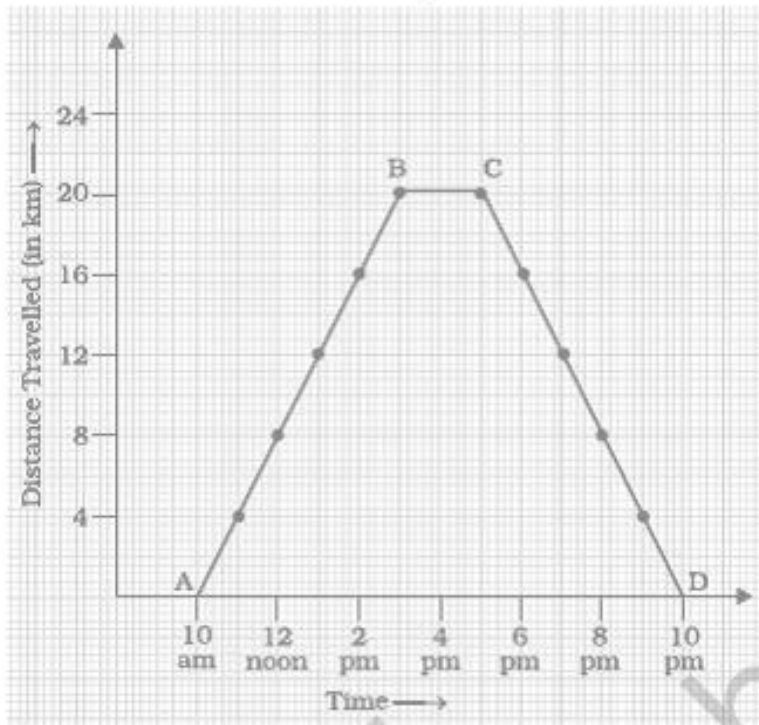


31. Find the greatest six digit number, which is a perfect square.
Also, find the square root of that Number. 4

32. i. Using suitable identity, evaluate 102×98 2

ii. Simplify: $(m^2n - l)^2 + 4m^2nl$ 2

33. Study the graph given below of a person who started from his home and returned at the end of the day. Answer the questions that follow.



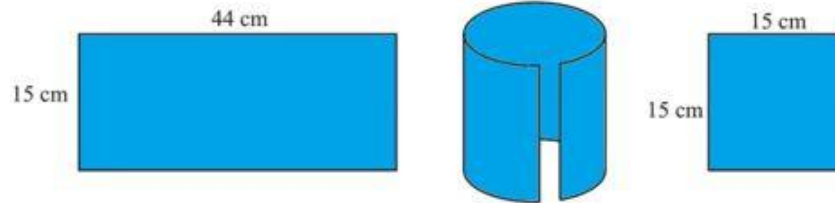
i. At what time did he cover 20 km of his journey? 1

ii. What was he doing from 3 pm to 5 pm? 1

iii. Calculate the average speed of the man from A to B and B to C. 2

Section – E**(In MCQ write the correct option with complete answer.)****34.**

Mohan lives in Hyderabad in Telangana. Those were very hot days of May. He thought that if we human beings need so much of water to drink, won't the birds also be thirsty. He decided to prepare a vessel to provide water for birds. He found a flexible blue coloured plastic rectangular sheet $44\text{ cm} \times 15\text{ cm}$. He rolled it along its breadth and joined the two opposite ends using a tape. He wanted to have a circular base for this cylinder and searched for another sheet. He found a square sheet $15\text{ cm} \times 15\text{ cm}$. He got a circular sheet just equal to the base of the cylinder cut from it.



- | | | |
|-------------|---|----------|
| i) | What is the height of the cylinder so formed? a) 15 cm b) 44 cm c) 22 cm d) 7.5 cm | 1 |
| ii) | What is the CSA of cylinder? a) 660 m^2 b) 225 m^2 c) 1936 m^2 d) 660 m^3 | 1 |
| iii) | How much will be the area of square sheet left unused after removing the circular base of the cylinder from it? (use $\pi = \frac{22}{7}$) | 2 |