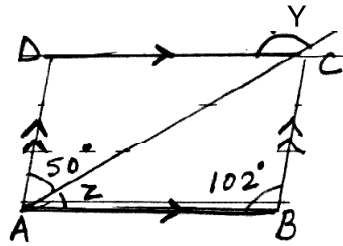


- b. In the given figure, ABCD is a parallelogram.

Find the values of y and z.



- c. A path of uniform width, 2.5 m, runs around the inside of a rectangular field 30 m by 27m. Find the area of the path. (4)

Question 9

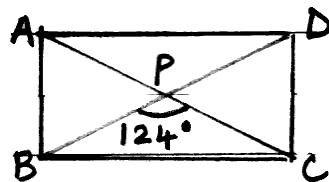
- a. Factorise : i. $7 + 10(x - y) - 8(x - y)^2$ (3x2)
ii. $2a^2b^2 - 98b^4$

- b. The measure of each interior angle of a regular polygon is five times the measure of its exterior angle.

- Find : i. measure of each interior angle (4)
ii. measure of each exterior angle
iii. number of sides in the polygon

Question 10

- a. Divide $10x^4 - 19x^3 + 17x^2 + 15x - 42$ by $2x^2 - 3x + 5$ (3)
b. Find the square root of 7 correct to two decimal places. Hence, find the value of $4 - \sqrt{7}$ (3)
c. ABCD is a rectangle. If $\angle BPC = 124^\circ$ calculate :
i. $\angle BAP$ ii. $\angle LADP$



Quarterly Examination - 2018-19

MATHEMATICS

Class : VIII

Time : 2 Hrs. + 15 mints reading time

Full Marks : 80

Section A

Question 1

- a. If $923x783$ is divisible by 11, what is the value of digit x (3)
b. Find the values of the letters in each of the following and give reasons for the steps involved.

$\begin{array}{r} 12A \\ + 6AB \\ \hline A09 \end{array}$	$\begin{array}{r} AB \\ \times 5 \\ \hline CAB \end{array}$
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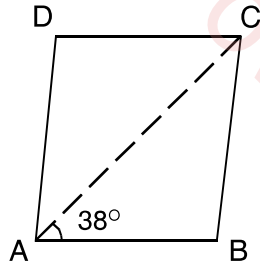
- c. i. Evaluate : $\sqrt[3]{216x - 343}$
ii. Find the smallest number by which 12748 be multiplied so that the product is a perfect square.

Question 2

- a. Divide : $-50a^2b^3$ by $15a^4b^2$ (1)
 $2x^3 - 8x^2 + 5x - 8$ by $x - 2$ (2)
b. i. On a number line mark the points $-\frac{5}{3}, \frac{4}{3}, -1$
ii. Insert two rational numbers between $\frac{3}{5}$ and $\frac{4}{7}$ (2x2)
c. One angle of a seven-sided polygon is 114° . If the remaining six angles are equal, find each equal angle. (3)

Question 3

- a. Factorise :
- $m - 1 - (m-1)^2 + am - a$ (2x3)
 - $x^2 - 2xy + y^2 - z^2$
 - $5 - 4x(1 + 3x)$
- b. ABCD is a rhombus. If $\angle BAC = 38^\circ$, find : (4)
- $\angle LACB$
 - $\angle LDAC$
 - $\angle LADC$ (give reasons)



Question 4

- a. A wire, when bent in the form of a square, encloses an area of 196 cm^2 . If the same wire is bent to form a circle, find the area of the circle. (4)
- b. If $m - \frac{1}{m} = 5$, find :
- $m^2 + \frac{1}{m^2}$
 - $m^4 + \frac{1}{m^4}$
 - $m^2 - \frac{1}{m^2}$ (2x3)

SECTION B (40 Marks)

Answer any four questions

Question 5

- a. Find the square root of 0.602 correct to two places of decimal (3)
- b. i. Check the divisibility of the following numbers by 4 or 8
- 47596
 - 593024
- ii. Write a pythagoreon triplet whose one number is 63.

- How many natural numbers lie between square of 90 and 91. (3)

- c. Find the least number that must be subtracted from 23497 to make it a perfect square.

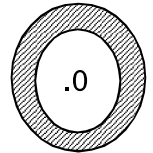
Question 6

- a. Name the multiplication property of rational numbers shown below :

$$i. \frac{-7}{12} \times \frac{5}{8} = \frac{5}{8} \times \frac{-7}{12} \quad ii. \frac{3}{4} \times \left(\frac{-4}{5} + \frac{5}{6} \right) = \frac{3}{4} \times \frac{-4}{5} + \frac{3}{4} \times \frac{5}{6}$$

- b. Use rational numbers $\frac{-4}{5}$, $\frac{7}{10}$ and $\frac{11}{-20}$ to verify the associative property of the addition of rational nos. (3)

- c. The shaded portion in the figure shows a circular path enclosed by two concentric circles. If the inner circumference of the path is 176 cm and the uniform width of the circular path is 3.5 m; find the area of the path. (4)



- d. Write the additive inverse of : $\frac{-4}{-13}$; $\frac{4}{-9}$ (2)

Question 7

- a. Using suitable identities, evaluate the following

$$i. 10.3 \times 9.7 \quad ii. \frac{103^2 - 97^2}{200} \quad iii. 107 \times 93 \quad (2x3)$$

- b. If $a^2 + \frac{1}{a^2} = 2$; find : i. $a + \frac{1}{a}$ ii. $a - \frac{1}{a}$ (2+2)

Question 8

- a. Evaluate : $(2x - 5y)(2x + 3y)$ for $x = 2$ and $y = 3$ (2)