PROVINCIAL DEPARTMENT OF EDUCATION - NORTH WESTERN PROVINCE

SECOND TERM TEST 2019

MATHEMATICS

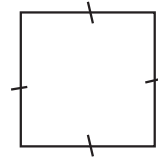**Grade 08**　　　　　　　　　　　　　　　　　　　　　　　**Two hours**

Name / Index No. :

PART - I

- **Answer the question from 01 - 20 on the paper itself.**
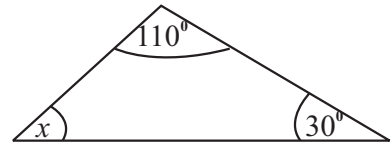- **Each question in Part I carries 2 marks.**

01. In the given figure,

 (i) Draw the axes of symmetry.
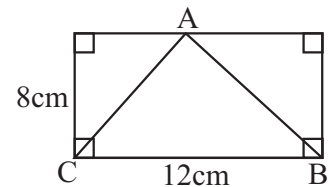
 (ii) Write down the order of rotational symmetry.

02. Simplify $1\dfrac{2}{5} \times 1\dfrac{3}{7}$

03. Find the value of x

04. Simplify 42×0.02
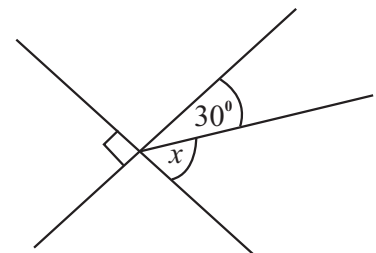
05. Find the area of the triangle ABC.

06. Solve $2x - 1 = 7$
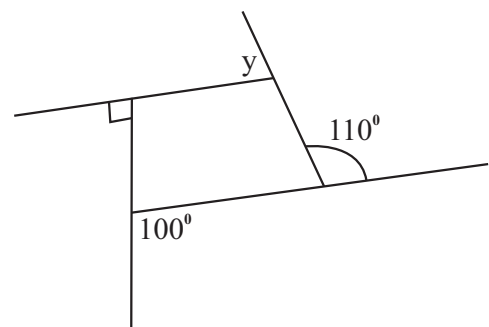
07. Express $\dfrac{2}{5}$ as a percentage.

08. Write the letters of the word 'ERROR' as a list of elements.

09. Find the value of x.

10. Simplify $\dfrac{-12 - (-8)}{-2}$

11. Find the value of y.

12. Fill in the blanks. $8x^3 = 2^{\square} \times x^3 = (2x)^{\square}$

13. If $196 = 2 \times 2 \times 7 \times 7$, Find the value of $\sqrt{196}$

14. A and B divide some money in 3 : 1 ratio write the amount A gets as a fraction.

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15. Find the value of $(-3)^3$

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16. Simplify

	t	kg
	2	200
+	1	950

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17. Find the highest common factor of $3a, 12ab$

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18. Simplify $2 - 1\dfrac{3}{4}$

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19. (i) Express 0.6 as a fraction.

(ii) Express 0.6 as a percentage.

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20. The L.C.M. of the numbers in 1st and 2nd circles are written in 3rd circle.

1st circle   2nd circle   3rd circle
   ③   ④   ⑫

Accordingly, write 2 appropriate numbers to obtain 20 as L.C.M. for the 1st and 2nd circles.

1st circle   2nd circle   3rd circle
   ◯   ◯   ⑳

PART - II

- **Answer 1st question and 04 other questions.**
- **First question carries 16 marks and all the other questions carry 11 marks each.**

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01. (a) Recall the activity you did in the class in order to find the sum of the interior angles of a triangle.

   (i) Draw a rough diagram to show the way you pasted the three interior angles of a triangle.
   (03 marks)

   (ii) Draw a rough diagram to show the way you pasted the four interior angles of a quadrilateral.
   (03 marks)

   (iii) "The sum of the interior angles of a quadrilateral = 2 x the sum of the interior angles of a triangle"
   verify the above relationship using the answers of (i) and (ii) above. (04 marks)

   (b) (i) Find the value of a, b, c and d of the given diagram. (04 marks)
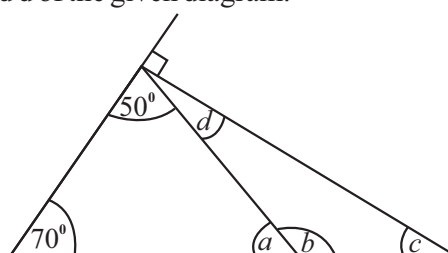
   (ii) Find the values of x and y of the diagram. (02 marks)

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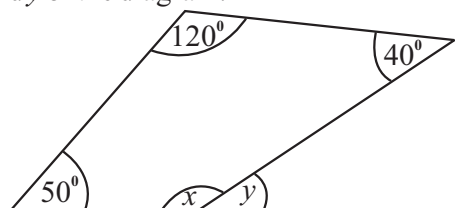
02. P = {digits in the number "380200"}

   Q = {digits in the number "55125"}

   R = {multiple of 10 in the prime numbers from 1 to 100}

   (i) Express P and Q sets with its elements written within curly brackets. (04 marks)

   (ii) Write the value of n(P) and n(Q). (02 marks)

   (iii) Choose the set which has 5 as an element and write that in set notation. (02 marks)

   (iv) Given a suitable name for set R. (03 marks)

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03. (a) The figure shows a vegetable garden consist with ABCD rectangular shaped part and BCE triangular shaped part.
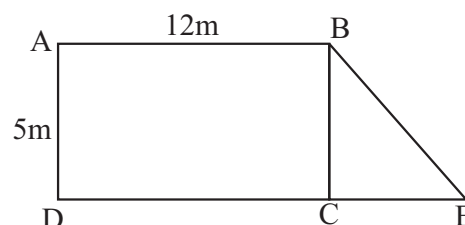
   (i) Find the area of the part ABCD. (02 marks)

   (ii) If the area of BCE is $\frac{1}{3}$ of the area of ABCD. Find the length of CE. (03 marks)

   (iii) Find the total area of the land used to grow vegetables. (02 marks)

   (b) Draw a rough diagram of a cube with the length of a side 5cm and calculate the surface area of it. (04 marks)

04

04. (a) Simplify

(i) $\dfrac{7}{10}$ x 5   (02 marks)

(ii) $3\dfrac{3}{4}$ x $2\dfrac{2}{3}$ (02 marks)

(iii) $\dfrac{3.2 \text{ x } 0.25}{0.8}$ (03 marks)

(b) If the area of the rectangle is $2\dfrac{4}{7}$ m² and its length is $1\dfrac{2}{7}$ m. Find the breadth of this rectangle.   (04 marks)

05. (a) The price of a chocolate is Rs. 50 more than the four times of the price of an ice cream. The price of 2 chocolates and 4 ice creams is Rs. 400.

(i)   If the price of an ice cream is Rs. x, find the price of a chocolate in terms of x. (02 marks)

(ii)   According to the above details, build up an equation with x and solve it.   (05 marks)

(iii)   Find the price of a chocolate.   (02 marks)

(b) Factorize   (02 marks)

      $4x - 12$

06. (a) Rs. 9500 of money was divided among A, B and C. The ratio in which if was divided between A and B is 3 : 2 and between B and C is 3 : 2.

(i)   Find the ratio in which the money was divided among A, B and C.   (03 marks)

(ii)   Find the amount of money A receives as a fraction out of the total amount.   (02 marks)

(iii)   Calculate the amount each person recieve separately.   (04 marks)

(b) To make a certain sweet 200g of sugar, 500g of flour and 100g of margarine is used. Find the ratio of sugar to flour to margarine in the simplest form.   (02 marks)

07. (a) Express each of the following as a percentages.

(i) $\dfrac{2}{5}$ (02 marks)

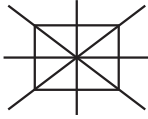(ii) $2\dfrac{1}{4}$ (03 marks)

(b) Saman took a loan of Rs. 12000 from a bank. He had to a Rs. 2400 as the interest at the end of a year.
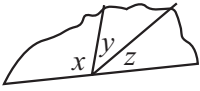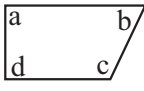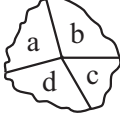
(i)   Express the interest as a percentage of the loan.   (02 marks)

(ii)   If Kumar intend to take a loan of Rs. 50000 from the same bank. Find the interest he has to pay at the end of 1st year.   (04 marks)

Answer Sheet

Part - I

01.	(i)	01	
	(ii) 4	01	02
02.	$\dfrac{7}{5}$ x $\dfrac{10}{7}$	01	
	2	01	02
03.	$x + 30^0 + 110^0 = 180^0$	01	
	$x = 40^0$	01	02
04.	42 x 2 = 84	01	
	0.084	01	02
05.	$\dfrac{1}{2}$ x 12 x 8	01	
	$= 48cm^2$	01	02
06.	$2x = 8$	01	
	$x = 4$	01	02
07.	$\dfrac{2}{5}$ x 100% $\dfrac{2}{5}$ x $\dfrac{20}{20}$	01	
	40% 40%	01	02
08.	{E, R, O}		02
09.	$x + 30^0 = 90^0$	01	
	$x = 60^0$	01	02
10.	-12 + 8 = -4	01	
	$\dfrac{-4}{-2} = 2$	01	02
11.	(i) $y + 90^0 + 110^0 + 100^0 = 360^0$	01	
	(ii) $y = 60^0$	01	02
12.	2^3 x x^3	01	
	$(2x)^3$	01	02
13.	196 = 2 x 7 x 2 x 7	01	
	$\therefore \sqrt{196} = 2$ x $7 = 14$	01	02
14.	3 + 1 = 4	01	
	$\dfrac{3}{4}$	01	02
15.	-27		02
16.	4kg 150g		02
17.	$3a$		02
18.	$\dfrac{1}{4}$		02
19.	(i) $\dfrac{6}{10}$ or $\dfrac{3}{5}$	01	
	(ii) $\dfrac{60}{100} = 60\%$	01	02

20.	1st circle 2nd circle 3rd circle ④ 4 ⑤ 5 ⑳ 20	02 or 0

40

Part - II

01.	(a) (i) $x + y + z = 180^0$	03
	 $a + b + c + d = 360^0$	
	(ii)	03
	(iii) $360° = 2$ x $180°$ $360° = 360°$	04
	(b) (i) $a = 60^0$	01
	$b = 120^0$	01
	$d = 40^0$	01
	$c = 20^0$	01
	(ii) $x = 150^0$	01
	$y = 30^0$	01

16

02.	(i) P = {0, 2, 3, 8}	02
	Q = {1, 2, 5}	02
	R = { }	02
	(ii) n (P) = 4	01
	n (Q) = 3	01
	(iii) Q	01
	$5 \in Q$	01
	(iv) Null set	01

11

03.	(a) (i)	12 x 5	01
		60m²	01
	(ii)	BCE Δ = $\dfrac{60}{3}$ = 20m²	01
		$\dfrac{1}{2}$ x CE x 5 = 20	01
		CE = $\dfrac{40}{5}$	01
		= 8m	01
	(iii)	60 + 20	01
		80m²	01
	(b)	Figure	01
		5 x 5 = 25cm² ⎫	
		25 x 6 ⎬	01
		150cm²	01
			11

04.	(a) (i)	$\dfrac{7}{2}$	01
		$3\dfrac{1}{2}$	01
	(ii)	$\dfrac{15}{4}$ x $\dfrac{8}{3}$	01
		10	01
	(iii)	$\dfrac{3.2}{0.8}$ = 4	02
		1	01
	(b)	$2\dfrac{4}{7} \div 1\dfrac{2}{7}$	01
		$\dfrac{18}{7} \div \dfrac{9}{7}$	01
		$\dfrac{18}{7}$ x $\dfrac{7}{9}$	01
		2m	01
			11

05	(a) (i)	4x + 50	02
	(ii)	2(4x + 50) + 4x = 400	01
		8x + 100 + 4x = 400	01
		12x = 300	02
		x = 25	01
	(iii)	4 x 25 + 50	01
		Rs. 150	01

	(b)	4 x x - 4 x 3	01
		4(x - 3)	01
			11

06.	(a) (i)	A : B : C	
		3 : ②　③: 2	01
		x3 ↓ x2 ⟶	01
		9 : 6 : 4	01
	(ii)	$\dfrac{9}{19}$	02
	(iii)	$\dfrac{9500}{19}$ = 500	01
		A - 500 x 9 = 4500	01
		B - 500 x 6 = 3000	01
		C - 500 x 4 = 2000	01
	(b)	Sugar : Flour : Margarine	
		200 : 500 : 100	01
		2 : 5 : 1	01
			11

07.	(a) (i)	$\dfrac{2}{5}$ x 100%	01
		40%	01
	(ii)	$\dfrac{9}{4}$	01
		$\dfrac{9}{4}$ x 100%	01
		225%	01
	(b) (i)	$\dfrac{2400}{12000}$ x 100%	01
		20%	01
	(ii)	50000 x $\dfrac{20}{100}$	02
		Rs. 10000/=	02
			11