සියලු ම හිමිකම් ඇවිරණි] (மුழுப் பதிப்புரிமையுடை.யது] All Rights Reserved]

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	දෙවන වාර ඇගයී ම - 20 இரண்டாம் தவணை மதிப்பீடு - 20 Second Term Evaluation - 20	17
<b>9 எஞ்னீය</b> <i>தரம்</i> 9 Grade 9	ගණිතය கணிதம் Mathematics	<b>உரக உைறகி</b> இரண்டு மணித்தியாலங்கள் Two Hours

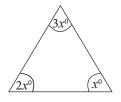
Name/Index No:

## **PART I**

- Answer all questions on this paper itself.
- Each question gets 2 marks.
- 1. Round off 3.752 to one decimal place.
- 2. Write  $6.7 \times 10^{-2}$  in general form.
- 4. Simplify  $2\frac{1}{3} \div (\frac{2}{3} \frac{1}{5})$
- 5. Find the value of 6x 3y if x = 2,  $y = \frac{3}{5}$
- 6. Simplify  $3x \times x^3$



8. Find the value of x in the given diagram.



9. Simplify the following binomial expression.

$$(x-3)(x+2)$$

- 10. The cost of production of an article is Rs. 500 and sold it at Rs. 400, find the percentage loss obtained by selling each article.
- 11. Sachi calculated the percentage of  $\frac{4}{5}$  using a calculator. The keys that he used is given below in order. But the symbols of some keys were erassed, write the missing symbols in relevant box.

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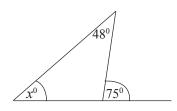
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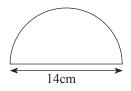
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12. Represent in index form of  $log_3 81 = 4$ 

13. Using the information given in the figure. Find the value of x.



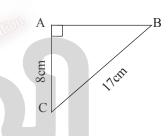
- 14. Solve  $\frac{x}{3} 4 = 1$
- 15. The figure shows a semi circle, find the perimeter of it.



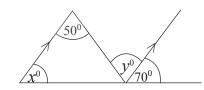
16. Make f the subject of the formula

$$v = u + ft$$

17. Find the length of AB the figure according to the given data.



18. Find the value of x and y in the given diagram.



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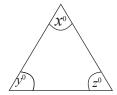
19. Find the gradient and the intercept of the graph of the equation y = 2x - 3

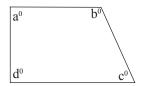
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20. The capacity of a vessel is  $3m^3$  Find in liters.

## **PART II**

- Write the answers for the question number 1 and four others on a separate paper and attach it to the Part I.
- Question No 1 carries 16 marks and, all the others get 11 marks each.
- 1. a) Recollect the activity that you have done with the assistance of your mathematics teacher, regarding the angles of triangles and quadrilaterals.

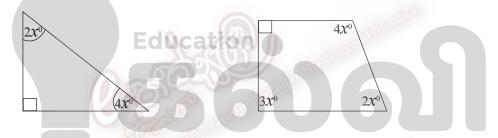




- i) What are the values of x + y + z and a + b + c + d?
- ii) Write the ratio

$$(x^0 + y^0 + z^0)$$
:  $(a^0 + b^0 + c^0 + d^0)$  in its simple form

iii) According to the figures find the value of x.



- b) i) A train covers 60km in one hour. Find the time the train takes to travel 420 km.
  - ii) A train takes Rs. 100 to travel 120km. Find the cost the train takes to travel 420 km.
- c) i) Solve 5(x-3) = -2 + 3(x+1)
  - ii) Solve the pairs of simultaneous equations given below and find the value of x and y.

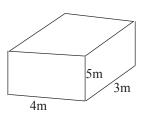
$$4x - 3y = -2$$

$$x - 3y = -5$$

- 2. a) Find the factors of the following algebraic expressions.
  - i)  $4x^2 100y^2$
- ii)  $x^2 y^2 x + y$
- iii)  $4 3x x^2$
- iv) kx my ky + mx

- b) Express in
  - i) cubic centimeters
- ii) litres

the capacity of the following container.



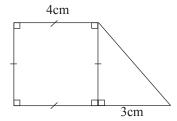
- 3. a) Simplify  $(4\frac{1}{5} \div \frac{14}{15}) \times 4\frac{1}{3}$ 
  - b) Mr. Silva made a cash donation to a community centre  $\frac{2}{7}$  of the total amount he denoted was used to buy musical instruments and  $\frac{1}{2}$  to buy sports equipment.
    - i) Find what fraction of the total amount was used to buy the musical instruments and sports equipment.
    - ii) The amount reaming was used to buy books. Find what fraction of the total amount was used to buy books.
- 4. a) Simplify

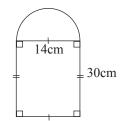
i) 
$$\frac{x^3 \times 2y^{-4}}{x^{-2} \times y^{-5}}$$

ii) 
$$\frac{(x^3)^2 \times x^5}{x^4}$$

- iii)  $\log_x 125 = y$  write one suitable pair of numbers for x and y.
- b) A person who borrowed Rs. 40 000 at 10% annual simple interest pays back the loan with the interest after 3 years
  - i) Find the interest after 3 years.
  - ii) What is the amount he has to pay to get released from the loan?
- 5. Use only a straight edge with a cm/mm scale and a pair of compasses for the following constructions show the construction lines clearly.
  - i) construct the straight line segment AB which is 7.5cm long. Construct an angle  $\overrightarrow{BAC} = 60^{\circ}$
  - ii) Construct the straight line segment AC and mark the point C on the straight line segment which is 6cm away from A.
  - iii) Complete the triangle ABC.
  - iv) Construct the locus of the point which moves equidistant from AB and AC Mark the point D where the locus meet BC.
- 6. a) Find the perimeter of the following shapes shown in the diagrams.

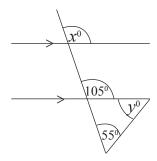
i)



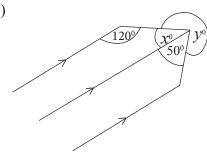


b) Find the value of x and y according to the data given in the figures.

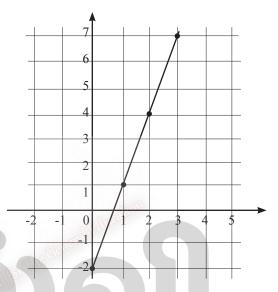
i)



ii)



- 7. a) In the given graph of the straight line
  - i) What is the intercept
  - ii) Find the gradient
  - iii) Using the gradient and the intercept write the equation of the straight line



- b) Find
  - i) the gradient
  - ii) the intercept and the equation of the straight line that joins the points (1, -3) and (2, -1)

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