



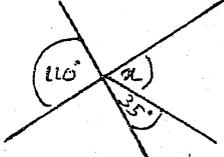
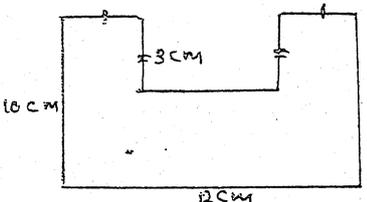
Devi Balika Vidyalaya – Colombo 8  
First Term Evaluation - 2018  
Mathematics

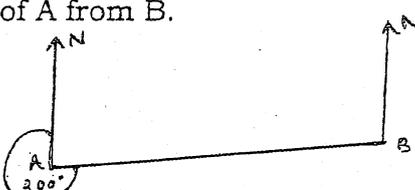
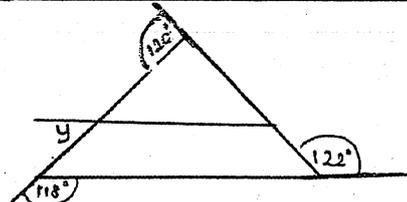
Grade 9

Time 1 ½ hours

- Answer all the questions.

Part - I

01	Write the next two terms of the number pattern 1, 4, 9, .....
02	Find the square root of 324 using prime factors
03	Find the magnitude of X. 
04	Find the perimeter of the given figure. 
05	Fill each cage with suitable integers $\begin{array}{r} \square \times -6 \\ +3 \times \square \\ \hline = -3 \end{array}$
06	Write $6ab - 8ab^2 + 12ac$ as a product of two factors.
07	The number of faces in a icosahedron is 20. Write the number of edges and vertices.
08	If the time of a town located at the -5 time zone is 1.00 pm find the time of Sri Lanka at that time (Time zone of Sri Lanka is $+5 \frac{1}{2}$ )
09	Find the value of $\frac{3}{2} \times \frac{1}{4}$ of $\frac{1}{2}$

10	Find the value of $5.32 \times 2.5$
11	Factories $P^2 - 7P + 12$
12	A broker was paid Rs. 48000 for selling a land. If he charges 3% of Commission, find the purchase price of the land.
13	Write the following in ascending order. $(-2)^4, (-2)^5, (-1)^4, (-1)^5$
14	Fill in the blanks $10t - 50kg = \dots\dots\dots kg$
15	Simplify, $(2p)^3 \times (3p)^3$
16	Find the bearing of A from B. 
17	Find the value of y. 
18	The general term of a number pattern is given by $T_n = \frac{n(n+1)}{2}$ find the $(n+1)^{th}$ term of this pattern.
19	If $a = 3$ and $b = -2$ , Find the value of $\frac{a}{2} - \frac{b}{3}$
20	Write $9x^2 - 1$ as a product of two factors.

Part - II

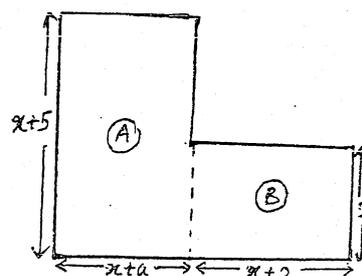
- Answer all questions.

01) The production cost of a almirah is Rs. 17000, and the producer sells it to a dealer at Rs. 25000. The dealer keeps a profit of 15% and sells it to a furniture seller. The furniture seller sells it to a consumer by keeping a profit of 15%.

- i. Find the profit of the producer
- ii. Find the percentage profit of the producer
- iii. Find the amount that a consumer spend for the almirah
- iv. Who earns a more profit? is it the dealer or the furniture seller ? Give reasons.

02) The figure shows a floor plan of a building

- i. Write an expression for the area of portion (A) and simplify it
- ii. Write an expression for the area of portion B and simplify it
- iii. Write down an expression for the total area using (i) and (ii)
- iv. Show that the total area is  $X^2 + 5x - 6$  when  $a = -2$



03)

- i. If  $\frac{2}{5}$  of a land is cultivated with betel find the remaining fraction of land.
- ii. If  $\frac{1}{2}$  of the remaining land is cultivated with banana, Write the land cultivated with banana as a fraction of the total land.
- iii. Express the land cultivated with betel and banana as a fraction of the total land.
- iv. If the land remaining without any cultivation is 9 hectares. Find the area of the total land,

v. Simplify 
$$\frac{2\frac{1}{4} + \frac{3}{4}}{\frac{1}{3}} \div 9$$

04) In a certain drill students form rows such that, first row consists of 9 students, the second row of 12, students, the third row of 15 students, etc. 20 rows are formed in above pattern.

- i. How many students are there in total in the first five rows ?
- ii. How many students are there in 20<sup>th</sup> row

- iii. Which row consists of 36 students ?
- iv. Show that a row consisting of 72 students will not be formed in the above drill.

05)

a) Express  $408_{\text{ten}}$  as a binary number.

b) Convert the following decimal numbers into binary numbers ?

i.  $10101011_{\text{two}}$

ii.  $111010_{\text{two}}$

c) Find the value

i.  $100111_{\text{two}} + 100111_{\text{two}} + 11_{\text{two}} = \dots\dots\dots$

ii.  $110011_{\text{two}} - 1100_{\text{two}} - 111_{\text{two}} = \dots\dots\dots$