

**Samudradevi Balika Vidyalaya - Nugegoda**  
**First Term Evaluation - 2012**

**Mathematics**

**Grade 11**

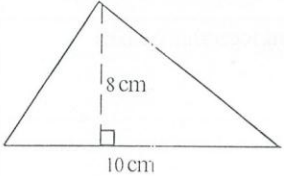
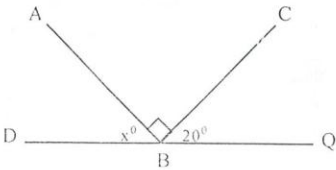
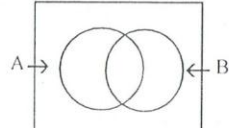
Marks:

Name: .....

Time: 02 hours

**Part - A**

- Answer all the questions

<p>01. Find the value of <math>10 + (-4)</math></p>	<p>02. Find the value of <math>0.5 \times 0.2</math></p>
<p>03. Solve <math>\frac{x}{2} = 4</math></p>	<p>04. The number of chilies broken out from ten trees in a chili bed are as follows.  <math>16, 9, 3, 16, 6, 22, 13, 24, 9, 9</math>                      Find i. Mean                      ii. Median of this distribution</p>
<p>05. Find the area of the triangle</p> 	<p>06. Simplify <math>6\sqrt{3} + 2\sqrt{3} = \dots\dots\dots</math></p>
<p>07. Find the value of <math>x</math></p> 	<p>08. Shade the region <math>(A \cap B)'</math></p> 

<p>09. Simplify <math>\frac{3}{y^2} + \frac{2}{y^2}</math></p>	<p>10. if the price of 5 Kilograms of sugar is Rs. 515/-. Find the price of 1 Kilogram?</p>
<p>11. Find the value of <math>2x^2 - y</math> when <math>x = 3</math> and <math>y = 4</math></p>	<p>12. Solve <math>2(x - 1) - (x + 3) = 5</math></p>
<p>13. Find the value of <math>5^2 \times 3^0</math></p>	<p>14. If <math>\log_{10} 2 = 0.3010</math>, Find the value of <math>\log_{10} 200</math></p>
<p>15. Find the value of <math>x</math> <math>2^x \times 2^3 = 2^7</math></p>	<p>16. Find the value of <math>\log_{10} 50 - \log_{10} 5</math>, Without using logarithmic tables.</p>
<p>17. Simplify <math>\left(\frac{64}{27}\right)^{-\frac{2}{3}}</math></p>	<p>18. Rationalize the denominator of <math>\frac{5}{3\sqrt{5}}</math></p>

19. Factorise  $9x^2 - 4$

Factorise

20. Make R as the subject of the formula

$$2hR^2 - h^2 = C^2$$

ExamSolutions

Part -B

- Write answers for four questions only

- (01) i. Write  $\sqrt{98}$  as a surd (03 marks)
- ii. Convert  $8\sqrt{2}$  in to a entire surd (03 marks)
- iii. Simplify  $\sqrt{50} \times \sqrt{2}$  (03 marks)
- iv. Simplify  $6\sqrt{11} + 3\sqrt{7} - 2\sqrt{11} - 5\sqrt{7}$  (03 marks)
- v. Simplify  $\frac{1\sqrt[3]{33}}{5\sqrt{3}}$  (03 marks)

02. i. Find the value of  $x$  (03 marks)
- $$9^{x-1} = 3^4$$
- ii. Find the value of  $\log_5 15$  in terms of  $x$  when  $\log_5 3 = x$  (03 marks)
- iii. Simplify  $\frac{(a^2)^2}{a^3 b^{-2}}$  (03 marks)
- iv. Find the value of  $2\log_{10} 20 - \log_{10} 4$  (03 marks)
- v. Simplify with out using logarithmic tables  $\lg x - \lg 2 = \lg 3 + \lg 5$  (03 marks)

03. The circumference of the base of a cone is 44cm. its' slant height is 25cm and the perpendicular height is 24cm. Find,

- i. The radius of the base (05 marks)
- ii. The surface area of the cone (05 marks)
- iii. Find the volume of the cone (05 marks)

(The volume of a right circular cone of base radius  $r$  and height  $h$  is  $\frac{1}{3}\pi r^2 h$  and the area of the curved surface of a cone of slant height  $l$  is  $\pi r l$ . Take  $\pi = \frac{22}{7}$  )

04. i. Evaluate using logarithmic tables. (10 marks)

$$\frac{(5.63)^2 \times \sqrt{0.0457}}{2.914}$$

- ii. Find the value of the following by using the above answer. (05 marks)

$$7.68 + \frac{(5.63)^2 \times \sqrt{0.0457}}{2.914}$$

05. i. Evaluate  $105^3$  using the expansion of a cube of a binomial expression (05 marks)

ii. Simplify  $\frac{4}{x^2-4} + \frac{1}{(x-2)^2}$  (05 marks)

iii. Simplify  $\frac{x^2+x-12}{x^2-64} - \frac{x^2-x-6}{x^2+4x+16}$  (05 marks)

06. Daya plucked some mangoes from her garden. He sent  $\frac{1}{4}$  of mangoes to the brother and  $\frac{1}{4}$  of mangoes to the sister. Then he divided  $\frac{1}{3}$  of the remaining mangoes among neighbours. The rest he kept himself.

i. What is the fraction of the mangoes which were sent to the brother and sister out of the total mangoes? (05 marks)

ii. What is the fraction of the remaining mangoes Daya had out of the total mangoes? (05 marks)

iii. If Daya had 93 mangoes, what is the total amount of mangoes plucked from the garden? (05 marks)