Nalanda Vidyalaya – Colombo 10

Unit Test Project

Grade 09 | Mathematics | **Unit : 15 - Equations**

Answer all the questions.

1) Solve following equations.

i) $x + 5 = 8$ ii) $-3x + 7 = 16$ iii) $\frac{3P}{7} = 6$

iv) $2(x + 5) = 24$ v) $\frac{x}{5} - 8 = 9$

2) Solve following equations with brackets.

i) $12 + 4\{x + 3(x + 4)\} = 108$

ii) $5x + 7\{4 - (x + 3)\} = 31$

iii) $2\{3y - 2(y + 5) + 3\} = -4$

iv) $20 - 2\{2x - (2 - x) + 10\} = -44$

v) $5\{3x - 4(x + 2) + 5(2x + 1)\} = 60$

3) Solve following equations

i) $\frac{x}{2} + \frac{x}{3} = 10$ ii) $\frac{1}{3}\left\{\frac{2t}{7} - 1\right\} = 3$

iii) $\frac{P+2}{2} + \frac{2P-6}{4} = 5$ iv) $\frac{x}{3} - \frac{2x+1}{3} = \frac{x-3}{5}$

v) $\frac{y-2}{3} + \frac{2y+5}{5} = \frac{y+7}{3}$

4) Solve following simultaneous equations.

i) $x + 3y = 14$
$x - 3y = 2$

ii) $3a - 2b = 5$
$3a + 4b = 17$

iii) $5p - 3r = 3$
$2p + 3r = 18$

iv) $9g - 2h = -1$
$-9g + 3h = 24$

v) $v + 3u = -1$
$5v + 3u = 19$

5) Sum of two numbers is 120 and difference between two numbers is 30. By taking the large number as x and small number as y, construct a pair of simultaneous equations. Find x and y by solving them.

6) Price of a book and a pen is Rs. 35/=. Price of 3 books and a pen is Rs. 75/=

i) construct a pair of simultaneous equations

ii) Find price of a book and a pen separately.