# NALANDA COLLEGE - COLOMBO 10
## Grade 11
## Mathematics
## Unit Test

## 7) Algebraic Fraction

1.  Find the L.C.M of $5ab, 10a^2b \ and \ 2ab^2$
2.  Find the L.C.M. of $3a + b \ and \ 2a - 4$
3.  Find the L.C.M. of $(x - 3), (x^2 - 9) and \ x^2 - x - 6.$
4.  Find the L.C.M. of $x^2, 3(x - y) and \ (y - x).$
5.  Find the L.C.M. of $(x - 2), x^2 + 5x + 6 \ and \ x^2 - 4$
6.  Simplify. $\dfrac{x+3}{4} + \dfrac{2x-1}{3}$
7.  Simplify. $\dfrac{5}{2x+1} - \dfrac{2x+4}{2x-1}$
8.  Simplify. $\dfrac{3n}{m^2} - \dfrac{4}{5m}$
9.  Simplify. $\dfrac{5}{a+3} - \dfrac{3}{a+2}$
10. Simplify. $\dfrac{5}{1-x} + \dfrac{3}{x-1}$
11. Simplify. $\dfrac{1}{x-3} + \dfrac{1}{x^2-x-6}$
12. Simplify. $\dfrac{2}{a-1} + \dfrac{3}{a+1} - \dfrac{1}{a^2-1}$

13. Multiply and represent the answer in the simplest form.

$$\dfrac{9}{x} \times \dfrac{2}{18x}$$

14. Multiply. $\dfrac{a^2}{3b+2} \times \dfrac{9b+6}{a}$

15. Multiply. $\dfrac{a-9}{a+2} \times \dfrac{a^2+3a+2}{(a+3)}$

16. Simplify. $\dfrac{a^2-81}{a+9} \times \dfrac{a^2+3a+2}{(a-9)}$

17. Simplify. $\dfrac{a^2-25}{a^2-9} \div \dfrac{a+5}{a+3}$

18. Simplify. $\dfrac{a(a+b)}{a^2-b^2} \div \dfrac{(a+b)^2}{a-b}$

19. Simplify. $\dfrac{1}{(a-3)} + \dfrac{1}{(a+3)}$

20. Simplify. $\dfrac{2}{x-y} + \dfrac{1}{y-x}$