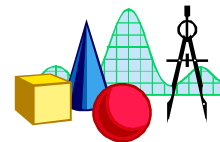




# MATH DEPT. TUTORIAL 1



## **Tutorial 1:** Special Products and Factoring: common factors, grouping, differences of squares and cubes, sum of cubes.

Find each of the following products

1.  $(x+3)(x+4)$
2.  $(x-5)(x+10)$
3.  $(2x+3)^2$
4.  $(x+2y)(x-2y)$
5.  $(2x+3)(2x-3)$
6.  $(x+1)^3$
7.  $(x-4)^2$
8.  $(x-2)^3$
9.  $(x-2)(x^2+2x+4)$
10.  $(3x+2y)^3$
11.  $(x-2y+z)(x-2y-z)$
12.  $(x-y+3)(x-y-3)$

Factor each of the following

13.  $x^3 - 2x^2 - 3x + 6$
14.  $x^3 - 27$
15.  $x^2 - 16$
16.  $x^3 - 4x$
17.  $2y^3 - 7y^2 - 15y$
18.  $3z^2 + 10z + 8$
19.  $6x^3 + 12x^2 + 24x + 48$
20.  $8t^3 - 1$
21.  $3x^3 + x^2 + 15x + 5$
22.  $2x^2 + 9x + 9$
23.  $2x^2 - x - 1$
24.  $t^3 + 8$
25.  $w^2 + 10w + 25$
26.  $x^4 - 4x^3 + x^2 - 4x$
27.  $25 - (y+5)^2$
28.  $x^6 - 3x^5 + 2x^2 - 6x$
29.  $5x^3 + 40$
30.  $x^3 - 1 + 3(x-1)$
31.  $(3x+2y)^2 + (3x+2y) - 12$
32.  $x^6 + y^6$
33.  $x^3 + x^2 - x - 1$