Factoring Review

$4x^2 - 12xy - 27y^2$

-108
-12

$3, 36$
$4, 27$
$6, -18$
$9, 12$

$= 4x^2 + 6xy - 18xy - 27y^2$

$2x$ $\quad -9y$

$= 2x(2x + 3y) - 9y(2x + 3y)$

$= (2x - 9y)(2x + 3y)$

13) $r^2 + 8 = -6r$ (+6r)

$r^2 + 6r + 8 = 0$

(×)	8
(+)	6
	2, 4
	1, 8

$= (r+2)(r+4)$

$r+2=0$ (−2)

$r = -2$

$r+4=0$ (−4)

$r = -4$

S.S. $\{-2, -4\}$

9) $r^2 - 16 = 0$

$\sqrt{1} = 1$

$\sqrt{16} = 4$

$= (r - 4)(r + 4)$

$r - 4 = 0$

$r = 4$

$r + 4 = 0$

$r = -4$

$S.S \{4, -4\}$

Key things to remember:

1) Are all of the terms on the same side of the equal sign?

2) If not - move them - and ensure that they are put into descending order (ax2 + bx + c)

3) Is there a Greatest Common Factor (GCF?) If yes you need to divide it out first.

4) What 2 numbers multiply to the last number and add to the middle number?

5) Finally - Factor!