

Notes 7.5 Factoring

1) $k^2 + 11k + 30$ factors of 30

$(k+5)(k+6)$

- 1 · 30
- 2 · 15
- 3 · 10
- 5 · 6

both are + so you add $5+6=11$

use foil to check.

$(k+5)(k+6)$
 F I
 F I
 O

$k^2 + 6k + 5k + 30$

$k^2 + 11k + 30$

2) $x^2 + 6x + 9$ factors of 9

$(x+3)(x+3)$

- 1 · 9
- 3 · 3

since both are +
add $3+3=6$

check.
 $(x+3)(x+3)$
 F I
 F I
 O

$x^2 + 3x + 3x + 9$

$x^2 + 6x + 9$

3) $n^2 - 12n + 35$ factors of 35

$(n-5)(n-7)$

- 1 · 35
- 5 · 7

two - equal a
positive

add $5+7=12$

check F I

$(n-5)(n-7)$
 F I
 O

$n^2 - 7n - 5n + 35$

$n^2 - 12n + 35$

4) $x^2 + 3x - 10$ factors of 10

$(x+5)(x-2)$

- 1 · 10
- 2 · 5

since one + and
one - you

subtract $5-2=3$

you want the 3 to
be positive so place
the 5 on the + sign.

check F I

$(x+5)(x-2)$
 F I
 O

$x^2 - 2x + 5x - 10$

$x^2 + 3x - 10$