Quiz review:

$$(-n^2+2n)+(-2n^3+n^2-n-12)$$

$$\boxed{-2n^3+n-12}$$

$$(5r^5)^3 \cdot r^{-2}$$

$$5^3 \cdot (r^5)^3 \cdot \frac{1}{r^2}$$

$$\frac{125r^{15}}{r^2} = 125r^{13}$$

$$-3c^2(c+11)+(4c-5)(3c-2)$$

$$-3c^3-33c^2+(-4c+5)(3c-2)$$

$$-3c^3-33c^2 \quad -12c^2+8c+15c-10$$

$$-3c^3-45c^2+23c-10$$

$$\frac{6x^2}{3x} - \frac{15xy}{3x}$$

GCF: $3x$

$$\boxed{3x(2x - 5y)} = 6x^2 - 15xy$$

$$(x+a)(x+b) = x^2 + ax + bx + ab$$
$$= x^2 + (a+b)x + ab$$

FACTORING POLYNOMIALS —

in the form $\boxed{x^2 + bx + c = (x+p)(x+q)}$

If we know b & c, how do we figure out p & q?

$$p + q = b$$
$$p \cdot q = \boxed{c}$$

$$x^2 + bx + c = (x+p)(x+q)$$

1. Make a table show all possible factors of c

	1	2
$b \neq$	m_1	n_1
$b \neq$	m_2	n_2
$b =$	m_3	n_3
$b \neq$	m_4	n_4

$= c$

2. Pick the numbers that <u>add</u> to b

$x^2 + 11x + 18$ $\quad (x + 2)(x + 9)$

①

$19 =$	1	18	$= 18$
$11 =$	2	9	$= 18$
$9 =$	3	6	$= 18$

Factor the trinomial.

1. $x^2 + 8x + 7$ $(x+1)(x+7)$

1, 7

4. $p^2 + 10p + 25$ $(p+5)(p+5)$

1, 25 = 26

5, 5 = 10

7. $a^2 + 13a + 36$ $(a+4)(a+9)$

1, 36 = 37

2, 18 = 20

3, 12 = 15

4, 9 = 13

$$x^2 - bx + c \longrightarrow (x-p)(x-q)$$

$$x^2 \pm bx - c \longrightarrow (x-p)(x+q)$$

-30

$-1, 30 = 29$
$-2, 15 = 13$
$-3, 10 = 7$
$10, -3 = -7$
$2, -15 = -13$
$1, -30 = -29$

2. $b^2 - 7b + 10$

1, 10 =
2, 5 = 7
$(x - 2)(x - 5)$

3. $w^2 - 12w - 13$

-1, 13 = 12
1, -13 = -12
$(x+1)(x-13)$

5. $m^2 - 10m + 24$

-1, -24 = -25
-2, -12 = -14
-3, -8 = -11
-4, -6 = -10
$(m-4)(m-6)$

6. $y^2 - 5y - 24$

-1, 24 = 23
-2, 12 = 10
-3, 8 = 5
-4, 6 = 2
4, -6 = -2
3, -8 = -5
2, -12
1, -24
$(y-8)(y+3)$

8. $n^2 + 2n - 48$

-1, 48 = 47
-2, 24 = 22
-3, 16 = 13
-4, 12 = 8
-6, 8 = 2
6, -8
4, -12
3, -16
2, -24
1, -48

$(n-6)(n+8)$

9. $z^2 - 14z + 40$

1, 40 = 41
2, 20 = 22
4, 10 = 14

$(z-4)(z-10)$

Homework:

p. 586 #3-17 (odd)

p. 587 #47-55 (all)