Unit test ch. 8/9:

- First school day after Wed. 12/17
- First school day after that - SKILLS TESTS

Factoring polynomials:

① Factor out a GCF (if present)

$3x^2y + 12xy^3$

$3xy(x + 4y^2)$

$-4x^2 - 8x + 12$

$-4(x^2 + 2x - 3)$

$-x^2 - 2x - 1$

$-(x^2 + 2x + 1)$

② Look for special patterns:

$$a^2x^2 + 2abx + b^2 = (ax + b)^2$$

$$4x^2 + 24x + 36 = (2x + 6)^2$$

$$a^2x^2 - b^2 = (ax + b)(ax - b)$$

$$9x^2 - 49 = (3x + 7)(3x - 7)$$

③ Break down trinomials into binomial factors:

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

$ax^2 + bx + c = (x + \quad)(x + \quad)$

$ax^2 - bx + c = (x - \quad)(x - \quad)$

$ax^2 + bx - c = (x + \quad)(x - \quad)$

$ax^2 - bx - c$

$3x^2 + 8x + 5$

$3x^2$	5	possibilities	middle
$x, 3x$	1, 5	$(x+1)(3x+5)$	$8x$
		$(x+5)(3x+1)$	$16x$

Steps to solving polynomial equations:

① Make sure the equation $= 0$

$$ax^2 - bx = c$$

$$ax^2 - bx - c = 0$$

$$4x^2 - 5x = 6$$

$$-6 \quad -6$$

$$4x^2 - 5x - 6 = 0$$

② Factor the polynomial

$$4x^2 - 5x - 6 = 0$$

$4x^2$	-6	poss.	middle
$x, 4x$	$-1, 6$	$(x-1)(4x+6)$	$2x$
$2x, 2x$	$-2, 3$	$(x+6)(4x-1)$ x	
		$(x-2)(4x+3)$	$-5x$
	$2, -3$	$(x+3)(4x-2)$	
	$1, -6$	$(x+2)(4x-3)$	
		$(x-3)(4x+2)$	
		$(x+1)(4x-6)$	
		$(x-6)(4x+1)$ x	
		$(2x-1)(2x+6)$	
		$(2x-2)(2x+3)$	
		$(2x+2)(2x-3)$	
		$(2x+1)(2x-6)$	

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(3) Set each of the binomial factors = 0 and solve:

$$(rx+t)(ux+v)$$

$rx+t=0$ $\quad$ $ux+v=0$

$$(4x+3)(x-2)$$

$4x+3=0$ $\quad$ $x-2=0$

$4x=-3$ $\quad$ $x=2$

$x=\frac{-3}{4}$

$x=2$ or $x=\frac{-3}{4}$

Homework/Test Practice:

p. 616 7-11 (odd)

p. 617 13-21 (every 4th)

p. 618 35-41 (odd)

p. 619 43-47 (odd)

optional practice – finish W.S. #2

p. 621 1-31 (odd)