

Factoring Friday #2

1. $x^2 + 10x - 75$ $(x+15)(x-5)$

2. $(7x-5)^2 + 8(7x-5) + 15 \rightarrow$
 $a = 7x-5$

$a^2 + 8a + 15$
 $(a+5)(a+3)$
 $(7x-5+5)(7x-5+3)$
 $7x(7x-2)$

3. $12x^2 + 17x - 5$

4. $x^2 + \frac{3}{2}x + \frac{1}{2}$

5. $\frac{1}{2}x^2 + \frac{1}{4}x - 7$

6. $36x^2 - \frac{9}{64}y^2$

	$4x$	-1
$3x$	$12x^2$	$-3x$
5	$+20x$	-5

$-60x^2 + -$
 $1 \cdot 60$
 $2 \cdot 30$
 $3 \cdot 20$
 $4 \cdot 15$
 $5 \cdot 12$
 $6 \cdot 10$

$(3x+5)(4x-1)$

4.) $x^2 + \frac{3}{2}x + \frac{1}{2}$

$\frac{2}{2}x^2 + \frac{3}{2}x + \frac{1}{2}$
 $\frac{1}{2}(2x^2 + 3x + 1)$

	$2x$	1
x	$2x^2$	$1x$
1	$2x$	$+1$

$\frac{2x^2}{1 \cdot 2}$

$\frac{1}{2}(2x+1)(x+1)$

5) $\frac{1}{2}x^2 + \frac{1}{4}x - 7$

$\frac{2}{4}x^2 + \frac{1}{4}x - \frac{28}{1}$

$x \quad 4 \quad -56x^2 + -$

$$\frac{2}{4}x^2 + \frac{1}{4}x - \frac{28}{4}$$

$$\frac{1}{4}(2x^2 + x - 28)$$

$$\frac{1}{4}(2x-7)(x+4)$$

	x	4
2x	2x ²	+8x
-7	-7x	-28

$$\begin{array}{r} -56x^2 \\ 1 \cdot 56 \\ 2 \cdot 28 \\ 78 \end{array} \quad + -$$

$$b) \quad 36x^2 - \frac{9}{64}y^2$$

$$\left(6x - \frac{3}{8}y\right)\left(6x + \frac{3}{8}y\right)$$