Factoring Refresher *Master &*

Quadratic equations can be solved by factoring as well.
Use the problems below to refresh your factoring skills ☺

SET 1: Greatest Common Factor

1. $12k - 18$

$6(2k-3)$

2. $40x^8 y + 64x^4 y$

$4x^4 y (10x^4 + 16x$

3. $14m^6 - 35m^3 - 7m^2$

$7m^2 (2m^4 - 5m - 1)$

4. $3ab^2 - 5a^2 b + 8ab$

$ab(3b - 5a + 4)$

** When factoring, always look for a _____ first! **

SET 2: Trinomials ($ax^2 + bx + c$, where $a = 1$)

5. $x^2 + 14x + 45$

$(x+9)(x+5)$

6. $w^2 - 15w + 26$

$\frac{26}{-13} \frac{-15}{-2}$ $(w-13)(w-2)$

7. $c^2 + 2c - 48$

$\frac{-48}{8} \frac{2}{-6}$ $(c+8)(c-6)$

8. $n^2 - n - 72$

$(n-9)(n+8)$

9. $a^2 + 12a + 36$

$(a+6)(a+6) = (a+6)^2$

10. $n^2 - 2n + 1$

$(n-1)(n-1) = (n-1)^2$

11. $2k^2 - 16k - 40$

$2(k^2 - 8k - 20)$

$2(k-10)(k+2)$

12. $5z^2 - 25z + 30$

$5(z^2 - 5z + 6)$

$5(z-6)(z+1)$

SET 3: Trinomials ($ax^2 + bx + c$, where $a > 1$)

13. $2x^2 - 15x + 18$

$\frac{36}{12} \frac{-15}{-3}$ $2x^2 - 12x - 3x + 18$

$2x(x-6) - 3(x-6)$

$(x-6)(2x-3)$

14. $5p^2 + 22p - 48$

$\frac{-240}{-10 \cdot 24} \frac{22}{}$
$20 \cdot -12$
$16 \cdot -15$
$30 - 8$

$5p^2 + 30p - 8p - 48$

$5p(p+6) - 8(p+6)$

$(p+6)(5p-8)$

Factoring Refresher   *Master E*

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$\begin{array}{r} -240 \mid 22 \\ -10 \cdot 24 \\ 20 \cdot -12 \\ 16 \cdot -15 \\ 30 \cdot -8 \end{array}$ $5p^2 + 30p - 8p - 48$

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