

Do not write on this worksheet. To receive full credit, all work must be done on notebook paper.

**A. Remove the greatest common factor.**

- $c^2m + 2m$
- $3r - a^2r$
- $mx^2 + my^2$
- $rs^2 - 9rt$
- $c - rc$
- $4a^2 - 4a - 24$
- $\frac{1}{2}a + \frac{1}{2}b + \frac{1}{2}c$
- $c + \frac{1}{2}c + \frac{1}{4}c$
- $6 - 18b + 12b^2$
- $-3x^2 - 3x + 6$
- $x - 15x - 2x$
- $6bx^2 - 8bx + 2b$

**C. Greatest Common Factor/Difference of Squares**

- $5x^2 - 5y^2$
- $3y^2 - 3w^2$
- $ra^2 - rb^2$
- $3x^2 - 12$
- $5y^2 - 45$
- $36a - ax^2$
- $49b - by^4$
- $16by^2 - b$
- $a^2x - 9b^2x$
- $4c^2y - d^2y$
- $9r^2z - 16s^2z$
- $2x^4 - 18y^2$

**E. Grouping**

- $y(y-1) + 2(y-1)$
- $a(a-8) + 9(a-8)$
- $(4c+5d)x - (4c+5d)y$
- $k^2 + 2k + kt + 2t$
- $x^2 - x + xy - y$
- $dg + dm - fg - gm$
- $rs - rt - ks + kt$
- $3b^2 + 2b + 12b + 8$
- $3x^2 - 2x + 6x - 4$
- $m^2 + 14a + 2m + 7am$
- $x^2 + x(a+b)$
- $x^3 - 21 - 3x^2 + 7x$

**B. Difference of Two Squares**

- $x^2 - 49$
- $9x^2 - 1$
- $25y^2 - x^2$
- $9c^2 - 4d^2$
- $16r^2 - 49s^4$
- $1 - 100y^4$
- $1 - 196n^6$
- $z^4 - 4w^2$
- $a^2b^2 - 9$
- $c^2d^2 - 81x^2$
- $w^4 - 16x^2y^2$
- $x^2 - \frac{4}{25}$

**D. Sum or Difference of Two Cubes**

- $8y^3 - 1$
- $a^3 + 8$
- $1 - u^3$
- $27x^3 + y^6$
- $125x^3 - y^3$
- $r^3s^3 + a^3b^3$
- $x^6 - y^6$
- $27x^6 + 64y^{12}$
- $2 - 16y^3$
- $24x^3 + 81$
- $5x^6 - 40y^3$
- $\frac{27}{64}y^3 - \frac{8}{27}x^3$

**F. Trinomials**

- $x^2 + 3x + 2$
- $a^2 + 5a + 6$
- $b^2 - 4b + 3$
- $y^2 - 8y + 15$
- $x^2 - 10x + 21$
- $y^2 + 10y + 24$
- $z^2 - 9z + 18$
- $s^2 - 11s + 30$
- $t^2 + 11t + 24$
- $a^2 - 14a + 40$
- $b^2 + 12b + 27$
- $c^2 - 14c + 24$