# Unit 5: Polynomials Day 10

Math 9 Principles

***5-7 I can factor factorials with a leading coefficient of one using the Product Sum technique and trinomials with a leading coefficient that is other than one using a combination of GCF and Product Sum technique.***

*Factor each trinomial using the "Product Sum" technique. Circle each answer.*

| | | |
|---|---|---|
| 1) $x^2 + 7x - 8$ | 2) $x^2 + 12x + 27$ | 3) $x^2 - 10x + 16$ |
| 4) $x^2 - 9x - 36$ | 5) $x^2 - 7x - 60$ | 6) $x^2 + 8x - 65$ |
| 7) $x^2 + 6x - 55$ | 8) $x^2 + 5x - 14$ | 9) $x^2 - 3x - 108$ |

*Two-Step Factoring. Factor each completely by first factoring out the GCF.*

| | |
|---|---|
| 10) $2x^2 + 14x + 20$ | 11) $3x^2 + 15x + 18$ |
| 12) $x^3 - 2x^2 + x$ | 13) $3x^2 - 18x - 165$ |

*Factor each by first factoring out the negative sign.*

| | | |
|---|---|---|
| 14) $-x^2 + 6x + 16$ | 15) $-x^2 - 5x + 36$ | 16) $-x^2 + 16x - 64$ |

*Factor each trinomial.*

| | | |
|---|---|---|
| 17) $x^2 + x - 12$ | 18) $x^2 - 6x + 5$ | 19) $x^2 - 2x + 1$ |
| 20) $x^2 - 4x - 45$ | 21) $x^2 - 8x - 33$ | 22) $x^2 - 16x + 48$ |
| 23) $x^2 + 9x - 52$ | 24) $x^2 + 11x - 42$ | 25) $x^2 - 10x - 75$ |

| | | |
|---|---|---|
| 26) $x^2 - 11x - 80$ | 27) $4x^3 - 12x^2 - 216x$ | 28) $-x^2 + x + 2$ |
| 29) $2x^2 + 12x + 10$ | 30) $-x^2 - 4x - 3$ | 31) $2x^3 + 14x^2 + 24x$ |
| 32) $-x^2 - x + 20$ | 33) $2x^2 - 8x - 10$ | 34) $-x^2 + x + 30$ |
| 35) $-2x^2 - 2x + 4$ | 36) $-x^2 + 5x + 36$ | 37) $-x^2 - 8x + 20$ |