

## Factoring Review

### Factor These Polynomials Completely 1 — Trinomials, $a = 1$

#### MILD

1.  $x^2 + 5x + 6$
2.  $x^2 + 9x + 18$
3.  $x^2 + 14x + 33$

#### MEDIUM

4.  $x^2 + x - 12$
5.  $x^2 - 7x + 10$
6.  $x^2 - 15x + 56$

#### SPICY

7.  $x^2 + 17x + 60$
8.  $x^2 + x - 132$
9.  $x^2 - 4x - 252$

### Special Squares 3 — Perfect Square Trinomials

#### MILD

10.  $x^2 + 2x + 1$
11.  $x^2 + 6x + 9$
12.  $x^2 - 10x + 25$

#### MEDIUM

13.  $4x^2 + 12x + 9$
14.  $9x^2 - 12x + 4$
15.  $16x^2 + 24x + 9$

#### SPICY

16.  $9x^2 + 30xy + 25y^2$
17.  $16x^2 - 40xy + 25y^2$
18.  $81a^2 - 126a + 49$

### Special Squares 4 — Difference of Squares

#### MILD

19.  $x^2 - 4$
20.  $x^2 - 25$
21.  $x^2 - 49$

#### MEDIUM

22.  $9x^2 - 4$
23.  $100x^2 - 25$
24.  $49x^4 - 36$

#### SPICY

25.  $9x^2 - 4y^2$
26.  $49p^4 - 36q^4$
27.  $x^4 - 81y^4$

**Factor These Polynomials Completely****2 — Trinomials,  $a \neq 1$** **MILD**

28.  $2x^2 + 7x + 3$

29.  $3x^2 + 7x - 6$

30.  $5x^2 + 6x - 8$

**MEDIUM**

31.  $4x^2 + 13x + 3$

32.  $6x^2 + 7x - 10$

33.  $8x^2 + 10x - 3$

**SPICY**

34.  $12x^2 + 17x + 5$

35.  $18x^2 + 19x - 12$

36.  $20x^2 + 44x - 15$

**Factoring Completely****5 — With a Common Factor**

Factor the common term first. Then factor the remaining polynomial completely.

**MILD****Common Term & One Combination**

37.  $4x^2 + 14x + 6$

38.  $6x^2 + 15x + 9$

39.  $12x^3 + 20x^2 + 8x$

**MEDIUM****Common Term & Two Combinations**

40.  $12x^2 + 14x - 20$

41.  $18x^2 - 12x - 16$

42.  $12x^3 + 14x^2 + 4x$

**SPICY****Common Term & Three Combinations**

43.  $24x^2 + 34x + 10$

44.  $54x^2 + 45x - 36$

45.  $96x^3 + 152x^2 + 56x$