

40S Pre-Calculus: Factoring Review

Factor each of the following expressions. Answers are on the second page.

Common Factoring

1. $2a + 10$

2. $24m + 9$

3. $20x^2 + 10x$

4. $20x^2 + 20$

5. $6ab - 6$

6. $-5x^2 - 95$

7. $-4w - 32$

8. $3x + 6y - 9z$

9. $2a + 10b + 4c$

Difference of Squares

1. $a^2 - b^2$

2. $x^2 - y^2$

3. $4z^2 - 1$

4. $9t^2 - 25$

5. $m^2 - 25$

6. $25b^2 - 1$

7. $16a^2 - 25b^2$

8. $36x^2 - 169$

9. $4x^2 - 9$

Simple Trinomials (of the form $ax^2 + bx + c$ where $a = 1$)

1. $a^2 + 6a + 8$

2. $x^2 + 7x + 10$

3. $x^2 + 2x - 15$

4. $a^2 - 7a - 8$

5. $r^2 - 5r - 24$

6. $a^2 + 11ab + 30b^2$

7. $x^2 - x - 20$

8. $y^2 + 3y - 18$

9. $x^2 - 6x - 16$

Complex Trinomials (of the form $ax^2 + bx + c$ where $a \neq 1$)

1. $5v^2 - 13v + 8$

2. $5x^2 + 24x - 5$

3. $5x^2 + 7x + 2$

4. $2n^2 + 11n - 40$

5. $7n^2 + 75n + 50$

6. $8a^2 + 30a - 27$

7. $8b^2 - 69b - 27$

8. $9k^2 - 62k + 48$

9. $6v^2 + 37v + 56$

10. $6a^2 + a - 5$

11. $9x^2 - 9x - 70$

12. $9p^2 + 54p + 80$

13. $6x^2 + 11x + 5$

14. $9r^2 - 44r + 32$

15. $9r^2 - 33r + 28$

Answers:

Common Factoring

1. $2(a + 5)$
2. $3(8m + 3)$
3. $10x(2x + 1)$
4. $20(x^2 + 1)$
5. $6(ab - 1)$
6. $5(-x^2 - 19)$ or $-5(x^2 + 19)$
7. $4(-w - 8)$ or $-4(w + 8)$
8. $3(x + 2y - 3z)$
9. $2(a + 5b + 2c)$

Difference of Squares

1. $(a + b)(a - b)$
2. $(x + y)(x - y)$
3. $(2z + 1)(2z - 1)$
4. $(3t + 5)(3t - 5)$
5. $(m + 5)(m - 5)$
6. $(5b + 1)(5b - 1)$
7. $(4a + 5b)(4a - 5b)$
8. $(6x + 13)(6x - 13)$
9. $(2x + 3)(2x - 3)$

Simple Trinomials

1. $(a + 2)(a + 4)$
2. $(x + 5)(x + 2)$
3. $(x + 5)(x - 3)$
4. $(a - 8)(a + 1)$
5. $(r - 8)(r + 3)$
6. $(a + 5b)(a + 6b)$
7. $(x - 5)(x + 4)$
8. $(y + 6)(y - 3)$
9. $(x - 8)(x + 2)$

Complex Trinomials

1. $(5v - 8)(v - 1)$
2. $(5x - 1)(x + 5)$
3. $(5x + 2)(x + 1)$
4. $(2n - 5)(n + 8)$
5. $(7n + 5)(n + 10)$
6. $(4a - 3)(2a + 9)$
7. $(b - 9)(8b + 3)$
8. $(k - 6)(9k - 8)$
9. $(3v + 8)(2v + 7)$
10. $(a + 1)(6a - 5)$
11. $(3x + 7)(3x - 10)$
12. $(3p + 10)(3p + 8)$
13. $(x + 1)(6x + 5)$
14. $(r - 4)(9r - 8)$
15. $(3r - 7)(3r - 4)$