

1.5 Practice Set

1. Describe your process for factoring a trinomial and give an example.

Factor each of the following polynomials completely. If the polynomial is prime, say so.

2. $y^2 - 13y + 22$
3. $6x^2y + 42xy + 72y$
4. $3x^2 - 15x - 21$
5. $25y^2 - 30y + 9$
6. $12x^2 - 4x - 8$
7. $7y^4 - 19y^3 - 6y^2$
8. $27x^2 + 39x + 3$
9. $4x^2 + 27x - 40$
10. $z^2 - 24z - 180$
11. $7x^2 - 27x - 4$
12. $6x^2 - 13x + 5$
13. $3x^2y - 24xy + 36y$
14. $9a^5 + 22a^4 + 8a^3$
15. $x^2 + 17x + 15$
16. $14x^2 - 29x + 12$
17. $22yz^4 - 23yz^3 - 15yz^2$

- 18. $35x^2 - 26xy + 3y^2$
- 19. $18x^2y + 19xy - 12$
- 20. $3m^6 + 4m^3 - 15$
- 21. $90xy^4 - 60xy^2z + 10xz^2$
- 22. $4x^3y + 20x^2y - 56xy$
- 23. $2x^2 + 26xz + 36z^2$
- 24. $16r^2s^2 + 40s^2 + 25$

Distributed Practice Problems

Perform the indicated operations and/or simplify each of the following.

- 25. $(5x + y)(5x - y)$
- 26. $(5x - y)^2$
- 27. $(x - 3)(x^2 + 3x + 9)$
- 28. $(3x^8y^2)^{-4}(2x^4y^{-1})^3$
- 29. $\left(\frac{x^2y^{-3}}{z^{-1}}\right)^{-5}$

Solve the following equation for the indicated variable.

- 30. $|-2x + 5| - 14 = 7$