1.4 Practice Set

1. State two ways to "undo" multiplication and give an example.

Factor each of the following polynomials.

2. $5y^4 - 15xy^3$
3. $8x^6 - 4x^4 + 24x^3$
4. $ab + 4a - 7b - 28$
5. $5xy^2 - 2xy - 10y + 4$
6. $18x^2y^4 - 30xy^3 + 3xy - 5$
7. $-y^5 + 7y^4$
8. $15b^8 - 5b$
9. $48x^3y^4 - 8x^2y - 56x^2y^4$
10. $18x^2yz - 9xz^2 - 9z - 3yz$
11. $7z(3x - 5) - 4(3x - 5)$
12. $-3ab + 12a + 5b^2 - 20b$
13. $6mn - 24n - 9n + 36$
14. $7r(3s - 5) - (3s - 5)$
15. $27x^{10}y^8 - 54x^5y^9$
16. $9x^2 + 9xy - 6x - 6y$
17. $7x^4 - 5x^3 + 14x^2 - 10x$

Distributed Practice Problems

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

18. $(8x^5)(9x^4)$

19. $(2x^3y)^5$

20. $(8m+3)(7m-4)$

21. $6x(3x^2-2x+1)$

22. $(7y-5)^2$

23. $(2x+3)(2x-3)$

24. $3x(x+7)(x-1)-(4x+5)(x-2)$

25. $(4x^5y^{-1})^{-2}(5x^{-6}y^9)^3$

26. $\left(\frac{b^5c^{-3}}{a}\right)^2\left(\frac{a^3b^5}{c}\right)^{-4}$

Solve each of the following equations for the indicated variable.

27. $|6z-2|=10$

28. $3-|5x+4|=-11$

29. $2S+y=7yz+5x \text{ for } y$

30. $r=\frac{k}{3}(b+x) \text{ for } x$