**Simplify.**

1. 5(x + 2)

2. 7x(x + y)

3. 5x(6x2 + 10)

4. 10y(6xy – 14)

5. –2x2 (–2 + 6xy)

6. –6x(8 – 6x3 )

7. (x + 2)(x + 5)

8. (x – 6)(x + 9)

9. (x + 3)(x + 3)

10. (x – 5)(x + 5)

11. (x + 5)(y + 10)

12. (x + y)(z + y)

13. (100 + x)(x – 100)

14. (x2 + 1)(x + 9)

15. (x – 5)(2x + 13)

16. (3m + 6)(4m + 11)

17. (11s + r)(–7r + s)

18. (6 – x)(x + 100)

19. (3x + 10)(2x – 5)

20. (–y + 2)(–x – 3)

21. (x + 2)(x2 + 5x + 6)

22. (y + 3)(y2 – 6y + 1)

23. (x + 3)(x2 + 7x + 11)

24. (y + 5)(y2 – 7y – 10)

25. (2x + 1)(x2 – 6x + 2)

26. (3y + 3)(4y2 + 5y + 20)

27. (3x + 5)(5x2 + 4x + 11)

28. (2y + 7)(8y2 – 6y + 1)

29. (x2 – 2x + 1)(x2 + 5x + 6)

30. (x2 – 6x + 2)(x2 + 3x + 2)

31. (2x – 5)(x2 – 2x + 3)(x2 + x + 5)

32. 4x2(x3 – 4x)(4x2 + x – 4)

**Challenge Problems**

33. What is the area of a rectangle with length (3x + 2) inches and width (4x + 10) inches? Write your answer as an expression in terms of x.

34. The base of a rectangular prism is four times longer than it is wide, and the height is equal to the area of the base. What expression represents the volume of the rectangular prism?

**Correct the Error**

35. There is an error in the student work shown:

Question: Simplify (x – 3)(x – 7).

Solution: (x – 3)(x – 7) = x•x – 7•x – 3•x – 21 = x2 – 10x – 21

What is the error? Explain how to solve the problem.