

6-2 Practice

Multiplying Special Cases

Simplify each expression.

1. $(x + 7)^2$

2. $(w + 9)^2$

3. $(h + 3)^2$

4. $(2s + 4)^2$

5. $(3s + 1)^2$

6. $(5s + 2)^2$

7. $(a - 5)^2$

8. $(k - 10)^2$

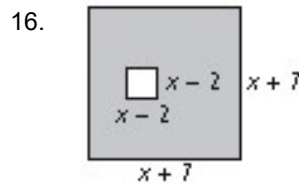
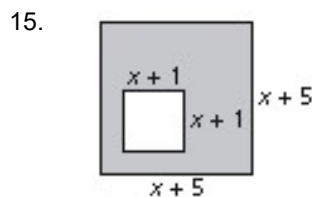
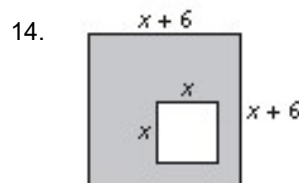
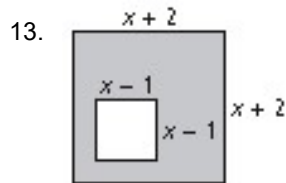
9. $(n - 4)^2$

10. $(3m - 4)^2$

11. $(6m - 2)^2$

12. $(4m - 2)^2$

The figures below are squares. Find an expression for the area of each shaded region. Write your answers in standard form.



17. A square brown tarp has a square green patch green in the corner. The side length of the tarp is $(x + 8)$ and the side length of the patch is x . What is the area of the brown part of the tarp?

18. A square red placemat has a gold square in the center. The side length of the gold square is $(x - 2)$ inches and the width of the red region is 4 inches. What is the area of the red part of the placemat?

6-2 Practice (continued)

Multiplying Special Cases

Mental Math Simplify each product.

19. 48^2

20. 31^2

21. 29^2

22. 52^2

23. 63^2

24. 41^2

25. 89^2

26. 199^2

27. 302^2

Simplify each product.

28. $(v + 7)(v - 7)$

29. $(b + 2)(b - 2)$

30. $(z - 9)(z + 9)$

31. $(x + 12)(x - 12)$

32. $(8 + y)(8 - y)$

33. $(t - 15)(t + 15)$

34. $(m + 1)(m - 1)$

35. $(a + 4)(a - 4)$

36. $(5 + g)(5 - g)$

37. $(p + 20)(p - 20)$

38. $(f - 18)(f + 18)$

39. $(2c + 3)(2c - 3)$

Mental Math Simplify each product.

40. $61 \cdot 59$

41. $27 \cdot 33$

42. $202 \cdot 198$

43. $74 \cdot 66$

44. $597 \cdot 603$

45. $85 \cdot 75$

Simplify each product.

46. $(m + 4n)^2$

47. $(3a + b)^2$

48. $(6s - t)^2$

49. $(s + 7t^2)^2$

50. $(p^5 - 8q^3)^2$

51. $(e^4 + f^2)^2$

52. $(r^2 + 5s)(r^2 - 5s)$

53. $(6p^2 + 2q)(6p^2 - 2q)$

54. $(3w^4 - z^3)(3w^4 + z^3)$

55. Error Analysis Describe and correct the error made in simplifying the product.

$$\begin{array}{l} \cancel{(2x + 7)(2x - 7)} \\ \cancel{= 4x^2 - 28x - 49} \end{array}$$

56. The formula $V = \frac{4}{3}\pi r^3$ gives the volume of a sphere with radius r . Find the volume of a sphere with radius $x + 9$. Write your answer in standard form.