

Name:
Instructor:

Date:
Section:

Practice Set 5.2

Use the choices to fill in each blank.

first inside exponents expanded sum and difference square same two terms binomial last outer

- $(x + 2y)^2 = x^2 + 4xy + 4y^2$ is an example of finding the _____ of a _____.
- $(x + 2y)(x - 2y) = x^2 - 4y^2$ is an example of finding the product of the _____ of the _____.
- FOIL stands for multiply _____ terms, _____ terms, _____ terms, and _____ terms.
- $a^5 \cdot a^7 = a^{12}$ is an example of the product rule for _____.
- $5(2a + 4b - 6c) = 10a + 20b - 30c$ is an example of the _____ form of the distributive property.

Multiply.

- | | | |
|--|--|-----------|
| 6. $(4xy)(7x^3y^2)$ | 7. $(-3x^3y^4)(9x^2y^2)$ | 6. _____ |
| | | 7. _____ |
| 8. $3y^2(2y^3 + 3y - 4)$ | 9. $-4x^2y(2xy^2 + 3x^3 - 5y)$ | 8. _____ |
| | | 9. _____ |
| 10. $\frac{1}{2}x^2y(4x^2 + 8xy - 6y^2)$ | 11. $\frac{3}{5}m^2n(5m^2n - 10mn^2 + 15n)$ | 10. _____ |
| | | 11. _____ |
| 12. $(2x - 3)(3x + 5)$ | 13. $(3x - 4)(2x + 7)$ | 12. _____ |
| | | 13. _____ |
| 14. $(4x - 3y)(6x + 7y)$ | 15. $(5 - 4y)(3 - 8y)$ | 14. _____ |
| | | 15. _____ |
| 16. $\left(\frac{1}{4}x + \frac{1}{3}y\right)\left(\frac{3}{4}x - \frac{2}{3}y\right)$ | 17. $\left(\frac{3}{5}a - \frac{2}{5}b\right)\left(\frac{1}{5}a + \frac{4}{5}b\right)$ | 16. _____ |
| | | 17. _____ |
| 18. $(x + 3)(x^2 - 2x + 1)$ | 19. $(f - 2g)(3f^2 - 4fg + 5g^2)$ | 18. _____ |
| | | 19. _____ |
| 20. $(2m + n)(3m^3 - 2m^2n + mn^2 - 4n^3)$ | | 20. _____ |
| 21. $(x^2 - 2x + 4)(x^2 - 3x - 5)$ | | 21. _____ |

Practice Set 5.2

Multiply.

22. $(x + 5)(x + 5)$

23. $(y - 3)(y - 3)$

22. _____

24. $(3m + 5)(3m + 5)$

25. $(5z + 4)(5z + 4)$

23. _____

24. _____

26. $(4x - 7y)^2$

27. $(3x + 8y)^2$

25. _____

26. _____

28. $(3m - 2n)(3m + 2n)$

29. $(3x - y^2)(3x + y^2)$

27. _____

28. _____

30. $\left(\frac{3}{4}x + \frac{4}{5}\right)\left(\frac{3}{4}x - \frac{4}{5}\right)$

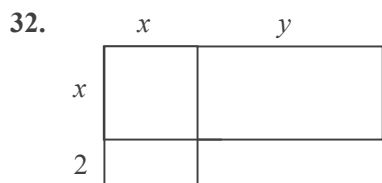
31. $[a + (3b - 1)][a - (3b - 1)]$

29. _____

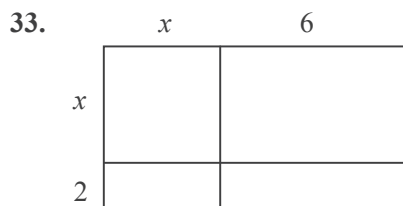
30. _____

31. _____

Find a polynomial expression for the total area of each figure.

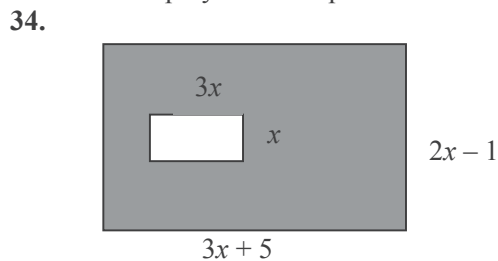


32. _____



33. _____

Write a polynomial expression for the area of the shaded portion of the figure.



34. _____

Challenge

35. Multiply: $[(x + 2) - (y - 3)]^2$

35. _____