

EXTRA PRACTICE 6
Using the Distributive Laws and Factoring
Use after Section 1.7

Name _____

Multiply using the distributive law.

Example: $8(6x - 4) = 8 \cdot 6x - 8 \cdot 4 = 48x - 32$

Multiply.

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|---------------------------------|----------------------------------|
| 1. $7(n - 4) =$ _____ | 2. $5(x + 6) =$ _____ |
| 3. $-2(x - 7) =$ _____ | 4. $-9(y + 10) =$ _____ |
| 5. $-4(a + 3b) =$ _____ | 6. $10(2x - 3y) =$ _____ |
| 7. $-5(x + 2y - 6) =$ _____ | 8. $8(5x + 4y - 12) =$ _____ |
| 9. $9(2a - b + 3) =$ _____ | 10. $-7(-3p - 15q + 14) =$ _____ |
| 11. $3(-6r + 15t - 21) =$ _____ | 12. $20(-6a - 10b + 9) =$ _____ |

Factoring is the reverse of multiplying. To factor, we can use the distributive laws in reverse.

Example: $3x + 27y - 6 = 3 \cdot x + 3 \cdot 9y - 3 \cdot 2 = 3(x + 9y - 2)$

Factor.

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|-----------------------------|------------------------------|
| 13. $6x - 6 =$ _____ | 14. $8x + 24 =$ _____ |
| 15. $4x - 28 =$ _____ | 16. $5y - 30 =$ _____ |
| 17. $7x + 7 =$ _____ | 18. $9x - 63 =$ _____ |
| 19. $48 - 8x =$ _____ | 20. $55 - 11x =$ _____ |
| 21. $6a + 9 =$ _____ | 22. $14x - 49 =$ _____ |
| 23. $10y + 15 =$ _____ | 24. $18a - 30 =$ _____ |
| 25. $50x - 70 =$ _____ | 26. $32x + 24 =$ _____ |
| 27. $6x + 30 - 36a =$ _____ | 28. $15x + 45y - 15 =$ _____ |
| 29. $bx - 3by + 6b =$ _____ | 30. $ax - 5a - ay =$ _____ |
| 31. $6x + 9y - 24 =$ _____ | 32. $25x - 15y + 75 =$ _____ |