## LESSON PRACTICE

Follow the directions. Be sure to factor each equation completely.

**For #1–3**     $X^2 + X = 56$

1.  Find the factors. Make the right side equal to zero first.

2.  Find all solutions of X.

3.  Check by substituting the solutions.

**For #4–6**     $X^2 - 11X + 30 = 0$

4.  Find the factors.

5.  Find all solutions of X.

6.  Check by substituting the solutions.

**For #7–9**     $X^2 - 15X + 56 = 0$

7. Find the factors.

8. Find all solutions of X.

9. Check by substituting the solutions.

**For #10–12**   $X^2 - 13X + 40 = 0$

10. Find the factors.

11. Find all solutions of X.

12. Check by substituting the solutions.

Find all solutions of X.

1. $2X^2 + 7X + 6 = 0$

2. Check #1 by substituting the solutions.

3. $X^2 + 6X + 8 = 0$

4. Check #3 by substituting the solutions.

5. $X^2 + 3X + 4 = 14$

6. Check #5 by substituting the solutions.

Build and find the product.

7. $(X - 6)(X - 6) =$

8. Check #7 by multiplying the binomials vertically.

9. Use the difference of two squares to find the factors of $X^2 - 16$.

10. Use the difference of two squares to find the factors of $X^2 - 49$.

Simplify.

11. $-4^2 + (-2)^2 =$

12. $3^{-1} \times 3^1 =$

13. $(X^2)^2 (X^{-3})^{-1}$

14. $\dfrac{2X^2X^{-1}Y}{Y^3} - \dfrac{3X^0Y^3}{X^2} + \dfrac{5Y^{-2}}{X^{-1}} =$

(X and Y ≠ 0)

15. Rewrite 2X + 4Y – 8 = 0 in slope–intercept form of an equation of a line.

16. What is the slope of a line perpendicular to the line described in #15?

17. What is the GCF of 11 and 33?

18. Find the prime factors of 100.

19. Solve by elimination: Y = X – 3 and Y = 2X – 4.

20. (2X + 3)(2X + 1) = (2X)(    +    ) + (    )(2X + 1) = (    +    ) + (    +    )

Find all solutions of X.

1. $2X^2 + 9X + 4 = 0$

2. Check #1 by substituting the solutions.

3. $X^2 + 13X - 68 = 0$

4. Check #3 by substituting the solutions.

5. $X^2 - 2X + 5 = 8$

6. Check #5 by substituting the solutions.

Build and find the product.

7. $(X - 4)(X - 4) =$

8. Check #7 by multiplying the binomials vertically.

9. Use the difference of two squares to find the factors of $X^2 - Y^2$.

10. Use the difference of two squares to find the factors of $4X^2 - 4Y^2$.

Simplify.

11. $-3^2 - (2)^2 =$

12. $4^{-2} \times 4^3 =$

13. $(X^2)^3 (X^{-2})^2 =$

14. $2B^2B^1 - \dfrac{3B^{-1}}{B^{-4}} + \dfrac{5B^4}{B^{-1}} =$

(when $B \neq 0$)

15. Solve for B: $\dfrac{B}{4} = \dfrac{9}{25}$

16. Solve for R: $\dfrac{3.4}{5} = \dfrac{R}{15}$

17. How long will it take you to travel 520 miles at 65 mph?

18. How fast will you be going if you drive 240 miles in six hours?

19. Solve by substitution: $Y + 2X = -2$ and $X = 4$.

20. $(\quad + \quad)(X + 2) = (3X)(X + 2) + (4)(X + 2) = (\quad + \quad) + (\quad + \quad)$