**LESSON 3.1 Practice C**

For use with pages 132–140

**Solve the equation. CHECK.**

4. \( y + 10.5 = -9.4 \)
   \[ \frac{y}{-14} = -19.9 \]

10. \( \frac{14x}{-14} = 42 \)
   \[ x = 3 \]

13. \( \frac{-4}{-4} = 23 ; -4 \)
   \[ y = 9.2 \]

14. \( \frac{32}{2} = \frac{-8}{4} ; \frac{3}{2} \)
   \[ -8 \]

6. \( m + 6.25 = 3.5 \)
   \[ m = -2.75 \]

**Find the value of \( b \) using the given information.**

19. \( 3a = 9 \) and \( b = a - 2 \) \( \Rightarrow \) \( b = 3 - 2 \)
   \[ b = 1 \]

21. **Tallest Mountains** Mount Kilimanjaro, the tallest mountain in Africa, is 1088 meters taller than Mont Blanc, the tallest mountain in Europe. Mount McKinley is the highest point in North America at 6194 meters. Mount McKinley is 1387 meters taller than Mont Blanc. How tall are Mount Kilimanjaro and Mont Blanc? **Explain** how you got your answers.

**LESSON 3.2 Practice B**

For use with pages 141–146

**Solve the equation. CHECK.**

1. \( 3n + 14 = 35 \)
   \[ 3n = 21 \]
   \[ n = 7 \]

9. \( \frac{2}{3} - \frac{8}{3} = -4 \)
   \[ \frac{8 + 6}{3} = 4.3 \]
   \[ z = 12 \]

**Write an equation for the function described. Then find the input.**

10. The output of a function is 5 more than 2 times the input. Find the input when the output is 17.
   \[ y = 2x + 5 \]
   \[ y = 17 \]
   \[ 17 = 2x + 5 \]
   \[ x = 6 \] [INPUT IS 6]

12. The output of a function is 14 less than 6 times the input. Find the input when the output is 22.
   \[ y = 6x - 14 \]
   \[ y = 22 \]
   \[ 22 = 6x - 14 \]
   \[ x = 6 \] [INPUT IS 6]
Check whether the given number is a solution of the equation.

1. \(6x + 1 - 3x = \frac{7}{2}\)
   \(6(2) + 1 - 3(2) = 7\)
   \(3 \neq 7\) \[x\text{ is not a solution}\]

3. \(\frac{1}{2}(8x - 6) = \frac{1}{2}\)
   \(\frac{1}{2}(8(1) - 6) = 1\)
   \(\frac{1}{2}(2) = 1\)
   \(1 = 1\) \[x = 1\text{ is a solution}\]

Solve the equation. Check.

10. \(3a + 2a + 7 = 12\)
    \(\frac{5a + 7}{2} = 12\)
    \(-7 - 7\)
    \(\frac{5a}{2} = 5\)
    \(a = 2\)

17. \(6w + \frac{5(w - 2)}{2} = 23\)
    \(11w - 10 = 23\)
    \(+10 + 10\)
    \(11w = 33\)
    \(w = 3\)

18. \(7 - 3(x + 2) = 4\)
    \(-3x + 1 = 4\)
    \(-1 - 1\)
    \(-3x = 3\)
    \(x = -1\)

19. \(\frac{1}{4}(d - 5) = 1\)
    \(\frac{d}{4} - \frac{5}{4} = 1\)
    \(+\frac{5}{4} +\frac{5}{4}\)
    \(\frac{d}{4} = \frac{9}{4}, 4\)
    \(d = 9\)

20. \(\frac{1}{3}(m + 6) = 4\)
    \(\frac{m}{3} + \frac{2}{3} = 4\)
    \(-\frac{2}{3} -\frac{2}{3}\)
    \(\frac{m}{3} = 2, 3\)
    \(m = 6\)

Find the value of \(x\) for the triangle or rectangle.

22. Perimeter = 17 feet
    \(4\text{ft} + 8\text{ft} + 5\text{ft} = 17\text{ft}\)
    \(2x + 2x + x + 5 = 17\)
    \(3x + 5 = 17\)
    \(-5 - 5\)
    \(3x = 12\)
    \(x = 4\)

23. Perimeter = 18 meters
    \(6\text{m} + 2x\text{m} + x + x = 18\text{m}\)
    \(6x = 18\)
    \(x = 3\)
8. \(4(w + 3) = w - 15\)
   \[4w + 12 = w - 15\]
   \[-w - 12 = w - 15\]
   \[3w = -27\]
   \[w = -9\]

11. \(7 + x = \frac{1}{2}(4x - 2)\)
   \[7 + x = 2x - 1\]
   \[+1 -x = -x + 1\]
   \[8 = x\]

9. \(8(y - 5) = 6y - 18\)
   \[8y - 40 = 6y - 18\]
   \[-6y + 40 = -4y + 40\]
   \[2y = 22\]
   \[y = 11\]

15. \(0.25(8z - 4) = z + 8 - 2z\)
   \[2z - 1 = -z + 8\]
   \[+z +1 +z +1\]
   \[3z = 9\]
   \[z = 3\]

Find the perimeter of the square.

16. \(2(5x - 8)\)
   \(2(3x)\)
   \[P = 6x + 10x - 16 = 16x - 16 = 16(4) - 16\]
   \[P = 48\]

18. \(2(7x - 15)\)
   \(2(2x)\)
   \[P = 4x + 14x - 30 = 18x - 30 = 18(3) - 30\]
   \[P = 24\]

19. Saving and Spending  Currently, you have $80 and your sister has $145. You decide to save $6 of your allowance each week, while your sister decides to spend her whole allowance plus $7 each week. How long will it be before you have as much money as your sister?

   **Ke: You: $80; save $6/wk**
   **Sister: $145; spend $7/wk**

   **Variables:** \(x = \# \text{ of weeks}\)

   **Equation:** \[80 + 6x = 145 - 7x\]
   \[+7x\]
   \[80 + 13x = 145\]
   \[-80\]
   \[-13x = 65\]
   \[\frac{13}{13} x = 5\]
   \[x = 5\]

   **Conclusion:** $110 = $110

   **In 5 weeks, both will have $110 each.**