

LESSON 3.1 Practice C
For use with pages 132-140

CHAPTER 3 PRACTICE
TEST PROBLEMS FOR 3.1-3.4 AND 3.8

Solve the equation. CHECK.

4. $y + 10.5 = -9.4$

$y = -19.9$

6. $m + 6.25 = 3.5$ $m = -2.75$

10. $14x = 42$

$x = 3$

13. $\frac{y}{4} = -23$

$y = 92$

14. $\frac{3}{2} \cdot \frac{2}{3} n = -\frac{8}{3} \cdot \frac{3}{2}$

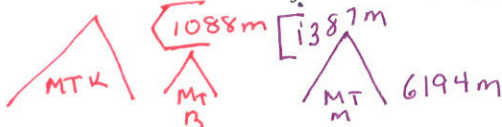
$n = -4$

c: $\frac{2}{3} \cdot \frac{-4}{1} = -\frac{8}{3}$
 $= -8/3 = -8/3 \checkmark$

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.



M + Blanc is 4,807m
 $6194 - 1387$

KI:
• MTK 1088m taller than MtB (Europe)
• MTM is 6194m
• MTM is 1387 taller than MtB
Mt Kilimanjaro is 5895m
 $4807 + 1088$

22. Car Wash You are working at a car wash to raise money for a charity. By the end of the day, you raised \$342. You charged \$6 for each car wash.

a. How many cars were washed during the day? $342 = 6x$ 57 CARS WASHED

b. If you had instead charged \$6.50 for each wash, how much more money would you have made? Explain how you got your answer.

50¢ MORE FOR 57 CARS AND YOU WOULD HAVE EARNED \$28.50 MORE

KI:
\$6/CAR
Need \$342
 $x = \#$ of cars

LESSON 3.2 Practice B
For use with pages 141-146

Solve the equation. CHECK.

1. $3n + 14 = 35$

$n = 7$

9. $\frac{z}{3} - 8 = -4$

$z = 12$

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.

$y = 2x + 5$ ($y = 17$) $\rightarrow 17 = 2x + 5$ $x = 6$ 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.

$y = 6x - 14$ ($y = 22$) $\rightarrow 22 = 6x - 14$ $x = 6$ INPUT IS 6

Practice A

For use with pages 148-153

Check whether the given number is a solution of the equation.

1. $6x + 1 - 5x = 7$; 2 \leftarrow NOT SOLUTION
 $6(2) + 1 - 5(2) = 7$
 $3 \neq 7$

3. $\frac{1}{2}(8x - 6) = 1$; 1 \leftarrow SOLUTION
 $\frac{1}{2}(8(1) - 6) = 1$
 $\frac{1}{2}(2) = 1$
 $1 = 1 \checkmark$

Solve the equation. CHECK.

10. $3a + 2a + 7 = 12$

$$\begin{array}{r} 5a + 7 = 12 \\ -7 \quad -7 \\ \hline 5a = 5 \\ \frac{5a}{5} = \frac{5}{5} \\ a = 1 \end{array}$$

17. $6w + 5(w - 2) = 23$

$$\begin{array}{r} 6w + 5w - 10 = 23 \\ 11w - 10 = 23 \\ +10 \quad +10 \\ \hline 11w = 33 \\ w = 3 \end{array}$$

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

$$\begin{array}{r} 7 - 3x - 6 = 4 \\ -3x + 1 = 4 \\ -1 \quad -1 \\ \hline -3x = 3 \\ x = -1 \end{array}$$

19. $\frac{1}{4}(d - 5) = 1$

$$\begin{array}{r} \frac{1}{4}d + \frac{5}{4} = 1 \\ +\frac{5}{4} \quad +\frac{5}{4} \\ \hline \frac{1}{4}d = \frac{9}{4} \cdot 4 \\ d = 9 \end{array}$$

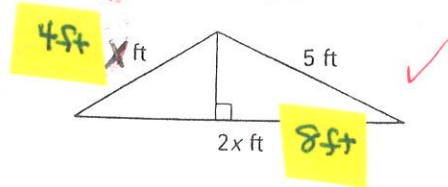
20. $\frac{1}{3}(m + 6) = 4$

$$\begin{array}{r} \frac{1}{3}m + 2 = 4 \\ -2 \quad -2 \\ \hline \frac{1}{3}m = 2 \cdot 3 \\ m = 6 \end{array}$$

C: $7 - 3(-1 + 2) = 4$
 $7 - 3(1) = 4$
 $7 - 3 = 4$
 $4 = 4 \checkmark$

Find the value of x for the triangle or rectangle.

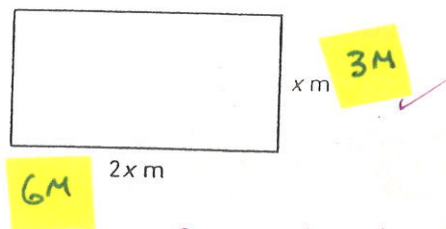
22. Perimeter = 17 feet



$$x + 2x + 5 = 17$$

$$\begin{array}{r} 3x + 5 = 17 \\ -5 \quad -5 \\ \hline 3x = 12 \\ x = 4 \end{array}$$

23. Perimeter = 18 meters



$$2x + 2x + x + x = 18$$

$$\begin{array}{r} 6x = 18 \\ x = 3 \end{array}$$

Solve the equation, if possible. CHECK

8. $4(w + 3) = w - 15$ C: $-24 = -24$ ✓

$$\begin{array}{r} 4w + 12 = w - 15 \\ -w \quad -12 \quad -w \quad -12 \\ \hline 3w = -27 \\ w = -9 \end{array}$$

9. $8(y - 5) = 6y - 18$ C: $48 = 48$ ✓

$$\begin{array}{r} 8y - 40 = 6y - 18 \\ -6y + 40 \quad -6y + 40 \\ \hline 2y = 22 \\ y = 11 \end{array}$$

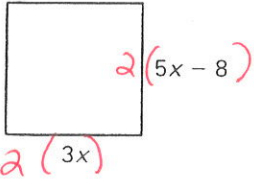
11. $7 + x = \frac{1}{2}(4x - 2)$ C: $15 = 15$ ✓

$$\begin{array}{r} 7 + x = 2x - 1 \\ +1 - x \quad -x + 1 \\ \hline 8 = x \end{array}$$

15. $0.25(8z - 4) = z + 8 - 2z$ C: $5 = 5$

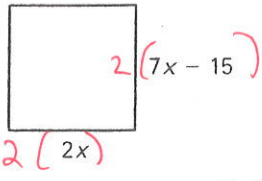
$$\begin{array}{r} 2z - 1 = -z + 8 \\ +z + 1 \quad +z + 1 \\ \hline 3z = 9 \\ z = 3 \end{array}$$

Find the perimeter of the square.

16.  $2(5x - 8)$
 $2(3x)$

$$\begin{array}{r} 5x - 8 = 3x \\ -5x \quad -5x \\ \hline -8 = -2x \\ x = 4 \end{array}$$

$P = 6x + 10x - 16 = 16x - 16 = 16(4) - 16$
 $P = 48$

18.  $2(7x - 15)$
 $2(2x)$

$$\begin{array}{r} 7x - 15 = 2x \\ -7x \quad -7x \\ \hline -15 = -5x \\ x = 3 \end{array}$$

$P = 4x + 14x - 30 = 18x - 30$
 $18(3) - 30 = P = 24$

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 → $x = \#$ OF WEEKS
↑ remember units

EQ → $80 + 6x = 145 - 7x$

$$\begin{array}{r} 80 + 6x = 145 - 7x \\ +7x \quad +7x \\ \hline 80 + 13x = 145 \\ -80 \quad -80 \\ \hline 13x = 65 \\ \frac{13}{13} \quad \frac{65}{13} \\ x = 5 \end{array}$$

C: \$110 = \$110

IN 5 WEEKS, BOTH WILL HAVE \$110 EACH

