



Extra Practice

1. Determine the value of x in the following equation.

$$\frac{x}{3} + 2 = 6$$

2. Determine the value of x in the following equation.

$$0.1x - 5 = 1$$

3. Determine the value of x in the following equation.

$$-9x - 77 = 4$$

4. Determine the value of x in the following equation.

$$6x + 5 = 47$$

5. Determine the value of x in the following equation.

$$\frac{x+7}{4} = 6$$

6. Find the solution to the following system of linear equations by using the elimination method.

$$\begin{cases} 4x + 7y = 62 \\ 5x + 2y = 37 \end{cases}$$

7. Find the solution to the following system of linear equations by using the elimination method.

$$\begin{cases} 3x + 8y = -2 \\ 6x - 16y = 20 \end{cases}$$

8. Find the solution to the following system of linear equations by using the elimination method.

$$\begin{cases} 8x + 3y = -4 \\ 7x + 2y = -6 \end{cases}$$

9. Find the solution to the following system of linear equations by using the elimination method.

$$\begin{cases} 6x - 7y = -51 \\ 12x + 5y = 69 \end{cases}$$

10. Find the solution to the following system of linear equations by using the elimination method.

$$\begin{cases} 4x + 8y = 6 \\ 2x + 12y = 8 \end{cases}$$

11. Ron and Brian bought shirts and hats at the same store. Ron bought 3 shirts and 1 hat for \$29.50. Brian bought 2 shirts and 2 hats for \$27.00. How much does each shirt cost?

12. Two adults and 3 children pay \$26 in total to go to the zoo. One adult and 5 children pay \$27 to go to the same zoo. How much will it cost for 2 adults and 2 kids?

13. Billy likes to collect quarters and nickels. So far, he has collected 18 coins totaling \$2.10. How many nickels has Billy collected?

14. The sum of the digits of a 2-digit number is 8. If the tens digit is 4 less than 5 times the ones digit, what is the number?

15. Bill and Ted's combined age is 40. Eight years ago, Bill was 2 years younger than Ted is now. How old is Bill now?



- 16.** Find the solution to the following system of equations using the comparison method.

$$\begin{aligned}y &= 6x - 26 \\x + 3y &= 55\end{aligned}$$

- 17.** Find the solution to the following system of equations using the comparison method.

$$\begin{aligned}y &= 7x - 11 \\y &= 9x - 27\end{aligned}$$

- 18.** Find the solution to the following system of equations using the comparison method.

$$\begin{aligned}y &= 2x - 17 \\y &= 4x - 37\end{aligned}$$

- 19.** Find the solution to the following system of equations using the comparison method.

$$\begin{aligned}y &= 3x - 7 \\4x + 2y &= 26\end{aligned}$$

- 20.** Find the solution to the following system of equations using the comparison method.

$$\begin{aligned}x &= 3y - 14 \\x &= 2y - 8\end{aligned}$$

- 21.** Rachel has 3 daughters. The eldest is 7 years older than the second who is 2 years older than the youngest today. The sum of their ages in 12 years from now is 56. How old are they today?

- 22.** The perimeter of Sheldon's estate is 84 m. The length is 4 m more than the width. What is the length of his estate? What is the width of his estate?

- 23.** One number is 9 times the other. What are the numbers if their sum is 100?

- 24.** If a sack of cement costs \$6.25 and a sack of gravel costs \$4.75 less than the cement, how much will Jessie pay if he needs 28 sacks of gravel and 20 sacks of cement to finish his masonry work?

- 25.** Find the number of solutions to the following system of linear equations by converting to slope-intercept form;

$$7x - 2y = 6; 7x - 2y = 4$$

- 26.** Find the number of solutions to the following system of linear equations by converting to slope-intercept form;

$$-2x + 3y = 8; -4x + 6y = 16$$

- 27.** Find the number of solutions to the following system of linear equations by solving algebraically;

$$y = 3x + 6; y = 3x + 2$$

- 28.** Find the solution to the following system of linear equations by graphing.

$$\begin{aligned}2x + 3y &= 5 \\3x - y &= 2\end{aligned}$$

- 29.** Find the solution to the following system of linear equations by graphing.

$$\begin{aligned}y &= 2x + 3 \\y &= \frac{1}{3}x - 2\end{aligned}$$

- 30.** Find the solution to the following system of linear equations by graphing.

$$\begin{aligned}y &= \frac{1}{2}x \\y &= -x + 6\end{aligned}$$



- 31.** Find the solution to the following system of linear equations by graphing.

$$\begin{aligned}y &= 2x - 6 \\ y &= -5x + 1\end{aligned}$$

- 32.** Solve for the variable x in the following equation.

$$\frac{x}{3} = 6$$

- 33.** Solve for the variable x in the following equation.

$$21x = 441$$

- 34.** Solve for the variable x in the following equation.

$$x + 13 = 27$$

- 35.** Solve for the variable x in the following equation.

$$\frac{x}{16} = \frac{19}{8}$$

- 36.** Solve for the variable x in the following equation.

$$x - 8 = 12$$

- 37.** Find the solution to the following system of linear equations by using the substitution method.

$$\begin{aligned}y &= -2x + 9 \\ 4x + 3y &= 23\end{aligned}$$

- 38.** A coffee shop only offers two types of coffee: Cappuccino and Espresso. Cappuccino is sold at \$3.50 and Espresso at \$4.00. If on a certain day 750 cups of coffee are sold, and a total of \$2803.50 was collected in revenue. Find how many Espresso cups were sold.

- 39.** Find the solution to the following system of linear equations by using the substitution method.

$$\begin{aligned}y &= x - 1 \\ -8x - 2y &= 22\end{aligned}$$

- 40.** Find the solution to the following system of linear equations by using the substitution method.

$$\begin{aligned}x &= 8y - 6 \\ 6x + 2y &= 14\end{aligned}$$

- 41.** Find the solution to the following system of linear equations by using the substitution method.

$$\begin{aligned}x + 2y &= 10 \\ 12x + 4y &= -20\end{aligned}$$

- 42.** Solve and simplify the given equation;
 $15x + 35 = -30 + 10x$

- 43.** Solve and simplify the given equation;
 $y - 2 + 5(y - 4) = y + 8$

- 44.** Solve and simplify the given equation;
 $7 - 2(2n - 1) - 13(n + 1) = -8n + 59$

- 45.** Solve and simplify the given equation;
 $27 - 9x = -21 - 6x$

- 46.** Solve and simplify the given equation;
 $-6(-2y + 6) - 3 = 6 + 1(-6y + 9)$