

Solving Systems of Equations - Elimination

Date _____

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Solve each system by elimination.

1)
$$\begin{aligned} -5x + 3y &= -24 \\ 2x - 3y &= 6 \end{aligned}$$

2)
$$\begin{aligned} 2x + 4y &= -14 \\ -2x + y &= -21 \end{aligned}$$

3)
$$\begin{aligned} -5x + y &= -7 \\ x + y &= -1 \end{aligned}$$

4)
$$\begin{aligned} 8x + 7y &= 11 \\ 6x + 7y &= 17 \end{aligned}$$

5)
$$\begin{aligned} -x + 7y &= -13 \\ 2x + 3y &= -25 \end{aligned}$$

6)
$$\begin{aligned} -12x - 2y &= -26 \\ 6x + 9y &= -27 \end{aligned}$$

7)
$$\begin{aligned} -7x + 20y &= -26 \\ -x - 10y &= 22 \end{aligned}$$

8)
$$\begin{aligned} -11x + y &= 15 \\ x + 3y &= 11 \end{aligned}$$

$$\begin{aligned} 9) \quad & -3x + 3y = 3 \\ & -2x - 7y = 11 \end{aligned}$$

$$\begin{aligned} 10) \quad & 2x - 5y = 11 \\ & 5x - 4y = -15 \end{aligned}$$

$$\begin{aligned} 11) \quad & -6x + 4y = 18 \\ & -4x + 3y = 10 \end{aligned}$$

$$\begin{aligned} 12) \quad & 7x + 8y = -2 \\ & 4x + 5y = -2 \end{aligned}$$

$$\begin{aligned} 13) \quad & 11 = 2y + x \\ & -5y + 20 - x = 0 \end{aligned}$$

$$\begin{aligned} 14) \quad & -23 - y = -8x \\ & -57 + 18x = -3y \end{aligned}$$

$$\begin{aligned} 15) \quad & -14y = -20 + 6x \\ & -21y - 42 = 21x \end{aligned}$$

$$\begin{aligned} 16) \quad & 0 = -6x - 4y \\ & 0 = -12y + 20 - 8x \end{aligned}$$

- 17) Find the value of two numbers if their sum is 25 and their difference is 3.
- 18) The sum of two numbers is 23. Their difference is 1. Find the numbers.
- 19) Amy's school is selling tickets to the annual talent show. On the first day of ticket sales the school sold 5 senior citizen tickets and 13 child tickets for a total of \$115. The school took in \$80 on the second day by selling 5 senior citizen tickets and 6 child tickets. What is the price each of one senior citizen ticket and one child ticket?
- 20) Molly and Elisa are selling cookie dough for a school fundraiser. Customers can buy packages of sugar cookie dough and packages of oatmeal cookie dough. Molly sold 7 packages of sugar cookie dough and 6 packages of oatmeal cookie dough for a total of \$97. Elisa sold 7 packages of sugar cookie dough and 1 package of oatmeal cookie dough for a total of \$57. What is the cost each of one package of sugar cookie dough and one package of oatmeal cookie dough?

- 21) Micaela and Natalie are selling cheesecakes for a school fundraiser. Customers can buy pecan cheesecakes and chocolate marble cheesecakes. Micaela sold 14 pecan cheesecakes and 6 chocolate marble cheesecakes for a total of \$188. Natalie sold 7 pecan cheesecakes and 2 chocolate marble cheesecakes for a total of \$79. Find the cost each of one pecan cheesecake and one chocolate marble cheesecake.
- 22) The senior classes at High School A and High School B planned separate trips to the local amusement park. The senior class at High School A rented and filled 10 vans and 12 buses with 336 students. High School B rented and filled 2 vans and 3 buses with 81 students. Every van had the same number of students in it as did the buses. How many students can a van carry? How many students can a bus carry?
- 23) Wilbur's school is selling tickets to a play. On the first day of ticket sales the school sold 7 senior citizen tickets and 4 child tickets for a total of \$120. The school took in \$138 on the second day by selling 10 senior citizen tickets and 2 child tickets. Find the price of a senior citizen ticket and the price of a child ticket.

24) Cody and Julia each improved their yards by planting rose bushes and geraniums. They bought their supplies from the same store. Cody spent \$51 on 3 rose bushes and 5 geraniums. Julia spent \$126 on 9 rose bushes and 12 geraniums. What is the cost of one rose bush and the cost of one geranium?

25) Shreya and Kathryn are selling cookie dough for a school fundraiser. Customers can buy packages of white chocolate chip cookie dough and packages of gingerbread cookie dough. Shreya sold 13 packages of white chocolate chip cookie dough and 2 packages of gingerbread cookie dough for a total of \$240. Kathryn sold 2 packages of white chocolate chip cookie dough and 9 packages of gingerbread cookie dough for a total of \$176. Find the cost each of one package of white chocolate chip cookie dough and one package of gingerbread cookie dough.

26) Natalie and Jennifer are selling fruit for a school fundraiser. Customers can buy small boxes of oranges and large boxes of oranges. Natalie sold 5 small boxes of oranges and 6 large boxes of oranges for a total of \$177. Jennifer sold 3 small boxes of oranges and 5 large boxes of oranges for a total of \$130. What is the cost each of one small box of oranges and one large box of oranges?

Answers to Solving Systems of Equations - Elimination

- 1) $(6, 2)$
- 2) $(7, -7)$
- 3) $(1, -2)$
- 4) $(-3, 5)$
- 5) $(-8, -3)$
- 6) $(3, -5)$
- 7) $(-2, -2)$
- 8) $(-1, 4)$
- 9) $(-2, -1)$
- 10) $(-7, -5)$
- 11) $(-7, -6)$
- 12) $(2, -2)$
- 13) $(5, 3)$
- 14) $(3, 1)$
- 15) $(-6, 4)$
- 16) $(-2, 3)$
- 17) 11 and 14
- 18) 11 and 12
- 19) senior citizen ticket: \$10, child ticket: \$5
- 20) package of sugar cookie dough: \$7, package of oatmeal cookie dough: \$8
- 21) pecan cheesecake: \$7, chocolate marble cheesecake: \$15
- 22) Van: 6, Bus: 23
- 23) senior citizen ticket: \$12, child ticket: \$9
- 24) rose bush: \$2, geranium: \$9
- 25) package of white chocolate chip cookie dough: \$16, package of gingerbread cookie dough: \$16
- 26) small box of oranges: \$15, large box of oranges: \$17