Matrix and System of Equations … Set 1

Solving Systems of Equations with Matrices

Set up and use matrices to solve the following systems of equations.

1) $x + y = 7$
$-5x - y = -27$

2) $-5x + 2y = 16$
$-4x - 6y = -10$

3) $-x + 4y = -3$
$-x + 2y = -3$

4) $-x + 6y = 14$
$-5x + 4y = -8$

5) $-2x + y = 2$
$4x - 2y = 18$

Answers

Solving Systems of Equations with Matrices

Set up and use matrices to solve the following systems of equations.

1) $x + y = 7$
$-5x - y = -27$

(5, 2)

2) $-5x + 2y = 16$
$-4x - 6y = -10$

(–2, 3)

3) $-x + 4y = -3$
$-x + 2y = -3$

(3, 0)

4) $-x + 6y = 14$
$-5x + 4y = -8$

(4, 3)

5) $-2x + y = 2$
$4x - 2y = 18$

No unique solution

Matrix and System of Equations … Set 1

Use Cramer's Rule to solve each system of equations.

6) $-x + y = 0$
$x + 6y = 21$

7) $-2x - 2y = 2$
$-4x - 3y = 2$

8) $-6x - 6y = -30$
$x + y = 2$

9) $-6x + 3y = 6$
$-x - 5y = 23$

10) The school that Eduardo goes to is selling tickets to a play. On the first day of ticket sales the school sold 8 adult tickets and 3 child tickets for a total of $97. The school took in $82 on the second day by selling 2 adult tickets and 6 child tickets. Find the price of an adult ticket and the price of a child ticket.

Matrix and System of Equations … Set 1

Answers

Use Cramer's Rule to solve each system of equations.

6) $-x + y = 0$
$x + 6y = 21$

$(3, 3)$

7) $-2x - 2y = 2$
$-4x - 3y = 2$

$(1, -2)$

8) $-6x - 6y = -30$
$x + y = 2$

No unique solution

9) $-6x + 3y = 6$
$-x - 5y = 23$

$(-3, -4)$

10) The school that Eduardo goes to is selling tickets to a play. On the first day of ticket sales the school sold 8 adult tickets and 3 child tickets for a total of \$97. The school took in \$82 on the second day by selling 2 adult tickets and 6 child tickets. Find the price of an adult ticket and the price of a child ticket.

adult ticket: \$8, child ticket: \$11