1) Solve using the method of elimination

a) $\ell_1: x + y = 2$
        $\ell_2: 3x - y = 2$

b) $\ell_1: x - y = -1$
        $\ell_2: 3x + y = -7$

c) $\ell_1: 3x + 3y = 7$
        $\ell_2: x + y = 3$

d) $\ell_1: 5x + 2y = -11$
        $\ell_2: 3x + 2y = -9$

2) Find the point of intersection of each pair of lines

a) $\ell_1: x + 2y = 2$
        $\ell_2: 3x + 5y = 4$

b) $\ell_1: 3x + 5y = 12$
        $\ell_2: 2x - y = -5$

c) $\ell_1: 3x + y = 13$
$\ell_2: 2x + 3y = 18$

d) $\ell_1: 6x + 5y = 12$
$\ell_2: 3x - 4y = 6$

3) Solve by elimination

a) $\ell_1: 3x - 2y = 5$
$\ell_2: 2x + 3y = 12$

b) $\ell_1: 5m + 2n = 5$
$\ell_2: 2m + 3n = 13$

c) $\ell_1: 3a - 4b = 10$
$\ell_2: 5a - 12b = 6$

d) $\ell_1: 3h - 4k = 5$
$\ell_2: 5h + 3k = -11$

4) Mehrad works in a department store selling sports equipment. Baseball gloves cost $29 each and bats cost $14 each. One shift, he sells 28 items. His receipts total $647.

a) How many bats did Mehrab sell?

b) How many gloves did he sell?

5) Maria rented the same car twice in one month. She paid $180 the first time for 3 days and she drove a total of 150 km. The next time, she also paid $180 and had the vehicle for only 2 days, but travelled 400 km.

a) What was the cost per day?

b) What was the cost per km?

Answers:

1)a) $x = 1, y = 1$ **b)** $x = -2, y = -1$ **c)** no solutions **d)** $x = -1, y = -3$
2)a) $(-2,2)$ **b)** $(-1,3)$ **c)** $(3,4)$ **d)** $(2,0)$
3)a) $x = 3, y = 2$ **b)** $m = -1, n = 5$ **c)** $a = 6, b = 2$ **d)** $h = -1, k = -2$
4)a) 11 **b)** 17
5)a) $50/day **b)** $0.20/km