In a Cartesian coordinate graph, a hiking trail is represented by the line \( y = -\frac{1}{2}x + 34 \). A lookout tower is represented by the point (26, 36). The scale of the graph is in metres. What is the distance between the trail and the lookout tower?

The equations of two parallel lines are as follows:
\[
2x - 5y - 10 = 0 \\
2x - 5y + 4 = 0
\]

What is the distance between these two lines?

Points A(56, 54), B(8, 33) and C(56, 9) are the vertices of a triangle. Segment AH is an altitude of this triangle. What is the measure of altitude AH?

Last week, 51 identical small cases and 98 identical large cases were loaded into a space of 39.6 m\(^3\). This week, 102 of the small cases and 49 of the large cases were loaded into a space of 35.1 m\(^3\). Next week, 120 large cases will have to be loaded. How many metres cubed of space will be filled by these 120 large cases?

For each week that he works, Fred is paid a fixed hourly wage plus a bonus based on the amount of profit the company makes. Last week, Fred worked 14 hours and received a bonus of $15.00. This week, he worked 15 hours but his bonus was only $7.50. Fred said that he earned the same amount of income for each of the two weeks. Next week, how much will Fred earn if his boss guarantees him a bonus of $30.00 and 20 hours of work?

Two partners each invested a certain sum of money to open a shop. The amount invested by the first was double the amount invested by the second. If the first partner had tripled his investment and the second had doubled his, they would have had $130 000 available to open the shop. What was the sum total invested by the two partners?

This year a gardener bought 3050 flower bulbs - tulips and lilies. Because of increased demand, he decided to order twice as many lilies and three times as many tulips for next year. This will bring the total number of bulbs to 7950. How many tulip bulbs will he order for next year?

To finance some of their activities, the members of a 4-H club sold soft drinks at a fair. They sold small glasses for $0.80 and large glasses for $1.20. In all they sold 225 glasses and made a total of $220. How many glasses of each size did they sell?

For home repairs, a technician charges a fixed price plus a certain amount per hour of work. Therefore, it costs $145 for 3 hours of work and $100 for 1.5 hours of work. How much would it cost for repairs that require 5 hours of work?

A person has $27 in quarters ($0.25 coins) and loonies ($1 coins). The number of quarters is 5 times the number of loonies. How many coins of each kind does this person have?

Find the distance between line \( 4x - 3y + 1 = 0 \) and point P (\(-5, 2\)).
Annie and Mark each borrowed some money interest free. Annie borrowed $500 which she will repay at a rate of $40 per month. Mark borrowed $600 which he will repay at a rate of $60 per month. They both make their first payment at the same time. **After how many months will Annie's debt be equal to Mark's?**

Catherine, Peter and Vince went to the same place to buy plants that they will then transplant to their vegetable gardens. They paid the same price for the same type of plant. Some of the information on each person's receipt is given below. **What should be the total cost indicated on Vince's receipt?**

<table>
<thead>
<tr>
<th>Catherine's receipt</th>
<th>Peter's receipt</th>
<th>Vince's receipt</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 cucumber plants</td>
<td>2 cucumber plants</td>
<td>1 cucumber plant</td>
</tr>
<tr>
<td>6 tomato plants</td>
<td>5 tomato plants</td>
<td>4 tomato plants</td>
</tr>
<tr>
<td>Total Cost $25.50</td>
<td>Total Cost $4.50</td>
<td>Total Cost ?</td>
</tr>
</tbody>
</table>

Allan has a total of 26 chickens and sheep which altogether have 72 legs. **How many chickens and how many sheep does he have?**

A vending machine sells apples for $0.40 and oranges for $0.45. At the end of the day the owner finds that 90 fruits were sold for a total of $38.00. **How many apples and how many oranges have been sold?**

Three customers are at the check-out of a local grocery store. The first pays $4 for 2 litres of milk and 3 muffins. The second pays $6.15 for 5 litres of milk and 2 muffins. The third has 1 litre of milk and 4 muffins. **How much will the third customer have to pay for his purchases?**

In the Cartesian plane below, lines \( \ell_1 \) and \( \ell_2 \) are parallel. Line \( \ell_3 \) is parallel to by y-axis. In addition: The equation of line \( \ell_1 \) is \( 5x + 4y - 564 = 0 \).

Points D (32, 75) and E (72, 25) belong to line \( \ell_2 \).

Point D also belongs to line \( \ell_3 \).

If D is the starting point, then point P is located \( \frac{2}{5} \) of the way along segment DE.

**Is point P closer to line \( \ell_1 \) or to line \( \ell_3 \)?**

Of the 310 students at a fashion show, there were 4 times as many girls as boys. **What were the numbers of boys and girls at the fashion show?**