

#1

Julia is running a business and wants to predict the money lost to vehicle repairs.

Vehicle maintenance costs are \$9 per month and there was a one time credit of \$1 given to her by the mechanic. Find the formula to relate the lost vehicle repair costs s and the month t . e.g. $y=1x+5$

Show your work

#2

You are taking your grain to market tomorrow and have c bushels of wheat, and each bushel sells for \$2. Write an equation that shows the relationship between the total worth b , and the number of bushels if you also get a \$9 flat rate. e.g. $y=1x+1$

Show your work

#3

Choose the best answer

The International Space Station (ISS) relies on solar panels and batteries for its power. When the ISS is in the shadow of the Earth, the battery drains at a rate of 10 power units per hour. Find the formula to relate the number of hours w to the amount of power loss v if the ISS gains 9 power units from a solar flare. e.g. $y=1x+5$

- $10w = -9v$ $v = -10w + 9$
- $v = 9w + 10$ $9w = 10 - v$

Show your work

#4

Pioneers are buying mules to trek across the country. Each of the 4 wagons require m mules to pull them. Write the equation to express the relationship between the total mules l they need to pull all the wagons if they owe 7 mules to the mule collection agency. e.g. $y=1x+1$

Show your work

#5

Alexa wants to make a unicorn hair wig, but a unicorn only sheds about 14 hairs per day. Write an equation to show the relationship between days s and the total unicorn hairs shed r if Alexa already has 6 hairs. e.g. $y=1x+1$

Show your work

#6

Farmer Gabriel's total chicken flock d is decreasing. He loses 18 per week. Write a formula to represent the relationship between the total number of chickens and the number of weeks e if Gabriel had a one time loss of 7 chickens due to Avian Influenza. e.g. $y=1x+5$

Show your work

#7

Averytown is going through an economic downturn and jobs are being lost at a rate of 5 per month. As the mayor of Averytown you need to write a formula to relate the number of months c to the number of jobs lost b if there was a one time loss of 5 jobs due to a factory explosion. e.g. $y=1x$

Show your work

#8

Choose the best answer

The International Space Station (ISS) relies on solar panels and batteries for its power. When the ISS is in the shadow of the Earth, the battery drains at a rate of 2 power units per hour. Find the formula to relate the number of hours p to the amount of power loss o if the ISS loses 9 power units from a short circuit. e.g. $y=1x+5$

- $o = -2p - 9$ $9p = 2 + o$
- $o = -9p + 2$ $2p = 9o$

Show your work

#9

A plumber makes \$10 an hour, and wants to calculate how much money she will make in x hours if they also get a flat rate of \$5. Write an equation to show the relationship between money made per hour and total money made w . e.g. $y=1x+1$

Show your work

#10

Choose the best answer

Since starting a new recycling plan, Connor's office recycles 16 kilograms of paper each week. Write an equation that shows the relationship between the weeks x and the paper recycled w if they first waste 2 kilograms of paper. e.g. $y=1x+1$

$16x=2w$

$w=16x - 2$

$w=-2x - 16$

$2x=-16 + w$

Show your work

#11

Pioneers are buying mules to trek across the country. Each of the 4 wagons require m mules to pull them. Write the equation to express the relationship between the total mules l they need to pull all the wagons if they owe 7 mules to the mule collection agency. e.g. $y=1x+1$

Show your work

#12

Out at Camp Matthew the squirrels like to sneak and steal sunflower seeds out of the birdfeeder at a rate 11 per hour. Write a formula to find the number seeds lost b related to the hour c if a gust of wind blows 2 seeds out of the feeder. e.g. $y=1x+5$

Show your work

| Question | Answer |
|----------|----------------|
| #1 | $s = -9t + 1$ |
| #2 | $b = 2c + 9$ |
| #3 | choice 2 |
| #4 | $l = 4m - 7$ |
| #5 | $r = 14s + 6$ |
| #6 | $d = -18e - 7$ |
| #7 | $b = -5c - 5$ |
| #8 | choice 1 |
| #9 | $w = 10x + 5$ |
| #10 | choice 2 |
| #11 | $l = 4m - 7$ |
| #12 | $b = -11c - 2$ |