**Linear Equation – Introduction Word Problems**

|  |
| --- |
| 1. Suppose the water level of a reservoir is 34 feet and is receding (dropping in amount) at a rate of 0.5 foot per day.
2. Create a table of values to show the water level over the first 3 days.
3. Write an expression to find the water level after *d* days.
4. Find the water level after 8 days
5. Find the water level after 12 days.
 |
| 1. A new streaming service costs $7.00 a month for one device. For each additional device, it will cost an extra $2.50.
2. Create a table of values to show the cost of signing up with 1, 2, or 3 devices.
3. Write an expression to find the cost of using the service with *d* devices.
4. Find the cost if one user has 8 devices registered.
5. Find the cost if one user has 12 devices registered
 |
| 1. A plumber charges $85 for a service call plus $55 for each hour of service.
2. Create a table of values to show the cost of hiring the plumber 1, 2, and 3 hours.
3. Write an expression to find the cost of hiring the plumber for *h* hours
4. Find the cost of hiring the plumber for 4 hours of work
5. Find the cost of hiring the plumber for 7 hours of work
 |
| 1. A truck rental company charges $130 flat rate to rent a truck, plus $0.75 per km driven.
2. Create a table of values to show the cost of renting a truck and driving it 1km, 2km or 3 km.
3. Write an expression to find the cost of renting the truck and driving in *k* km.
4. Find the cost of renting the truck and driving 225 km.
5. Find the cost of rending the truck and driving 82 km.
 |
| 1. Freida got $75 for her birthday from her Grandma. She gets $13 a week as an allowance for doing chores around the house. She is trying to save money.
2. Create a table of values showing how much she saves over the first 3 weeks.
3. Write an expression to find how much she saves over *w* weeks.
4. Find how much she will have saved after 4 weeks
5. Find how much she will save after 3 months (12 weeks)
 |
| 1. Jimmy works for Koodo and sells phone plans at the mall. He makes $630 a week plus $17 for every customer he sells a new plan to.
2. Create a table of values showing how much Jimmy makes if he signs 1, 2 or 3 customers up at the mall.
3. Write an expression to find out how much he makes a week if he signs up *c* customers.
4. Calculate Jimmy’s income if he registers 12 people for a plan
5. Calculate Jimmy’s income if he sells 32 people a plan
 |

**Linear Equation – Introduction Word Problems *ANSWERS***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Suppose the water level of a reservoir is 34 feet and is receding (dropping in amount) at a rate of 0.5 foot per day. Y = -0.5x + 34 b/c slope is the repeating value -> -0.5 each dayb/c y-int is where it is starting from (when x=0)

|  |  |
| --- | --- |
| X (Days) | Y (Water Level) |
| 0 | 34- 0.5 |
|  1 | 33.5 |
| 2 | 33 |

 |
| A new streaming service costs $7.00 a month for one device. For each additional device, it will cost an extra $2.50. Y = 2.5 x + 7b/c slope is the repeating value -> 2.5 each deviceb/c y-int is the initial cost ($7)

|  |  |
| --- | --- |
| X (Devices) | Y (Cost) |
| 1 | 7.00+ 2.5 |
| 2 | 9.50 |
| 3 | 12.00  |

 |
| A plumber charges $85 for a service call plus $55 for each hour of service. Y = 55x + 85 b/c slope is the repeating value -> $55 each hourb/c y-int is the initial cost ($85)

|  |  |
| --- | --- |
| X (Hours) | Y (Cost)+ 55 |
| 0 | 85 |
| 1 | 140 |
| 2 | 195  |

 |
| A truck rental company charges $130 flat rate to rent a truck, plus $0.75 per km driven.+ 0.75Y = 0.75 x + 130 b/c slope is the repeating value -> $0.75 per kmb/c y-int is the initial cost ($130)

|  |  |
| --- | --- |
| X (Km Driven) | Y (Cost) |
| 0 | 130 |
| 1 | 130.75 |
| 2 | 131.50 |

 |
| Freida got $75 for her birthday from her Grandma. She gets $13 a week as an allowance for doing chores around the house. She is trying to save money. Y = 13 x + 75 b/c slope is the repeating value -> $13 each weekb/c y-int is the initial amount she had ($75)

|  |  |
| --- | --- |
| X (Weeks) | Y (Savings) |
| 0 | 75+ 13 |
| 1 | 88 |
| 2 | 101 |

 |
| Jimmy works for Koodo and sells phone plans at the mall. He makes $630 a week plus $17 for every customer he sells a new plan to. + 17Y = 17 x + 630 b/c slope is the repeating value -> $17 for each customerb/c y-int is the amount paid even if there are no customers (when x = 0, y = 630)

|  |  |
| --- | --- |
| X (Customers) | Y (Savings) |
| 0 | 630 |
| 1 | 647 |
| 2 | 664  |

 |
| 1. A boat rental costs $215 for a 2-hour rental. It costs an additional $62 per hour if rented for longer.
2. Create a table of values showing the cost of the boat rental for an additional 1, 2 and 3 hours
3. Write an expression to find the cost of renting the boat for an additional *h* hours.
4. How much would it cost to rent the boat for 6 hours?
5. How much would it cost to rent the boat for 8 hours?
 |
| 1. There are 350 suckers in Ms. Hallahan’s storage. She gives away 7 per day to students who are awesome.
2. Create a table of values to show how many suckers she has in her closet after 1, 2 and 3 days
3. Write an expression to show how many suckers she has in her cupboard after *d* days
4. Calculate the number of suckers she has after 18 days.
5. Calculate the number of suckers she has after 35 days
 |
| 1. Ned works in sales and makes commission. This means he makes a little bit of money each time he sells a product. His normal salary is $42, 500 and he makes $840 on each sale of a car.
2. Create a table of values to show his income if he sells 1 car, 2, cars or 3 cars.
3. Write an expression to show his salary if he sells *c* cars
4. Calculate how much he makes if he sells 24 cars
5. Calculate his salary is he sells 55 cars
 |
| 1. To buy a flower arrangement costs a base price of $37. It costs an additional $3.75 for each additional flower added to the bouquet.
2. Create a table of values to show the price of the bouquet with 1 additional flower, 2 and 3.
3. Write an expression to show the cost of the bouquet for *f* flowers.
4. Calculate the cost of the bouquet with 15 additional flowers.
5. Calculate the cost of the bouquet with 8 additional flowers.
 |
| 1. Morty quit his job and has $5400 in his bank account. He knows it can be tricky to find another job, so wants to see how long he can live off his savings. It costs him $945 each week to live (ie: pay for rent, groceries, internet etc.).
2. Create a table of values to show how much money Morty will have in his bank account after 1 week, 2 weeks and 3 weeks without his job
3. Write an expression to show how much money he would have in his bank account at each *w* week since he quit his job.
4. Calculate how much money he would have in his account after 5 weeks without his job
5. Calculate how much money he would have in his account after 8 weeks without his job
 |