*Practice Makes Progress!*

1. Carl’s Car Rental Company charges a flat rate of $20 plus 25¢ per km. Cally’s Car Rental Company charges a flat rate of $10 plus 30¢ per km.
   1. Develop an equation to represent the cost of renting a car from each company. Let x represent the number of km driven and y represent the total cost.

Carl’s Car Rental Company \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Cally’s Car Rental Company \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Where do the two lines intersect? What does this point represent?

* 1. **Sketch** the graphs and label the lines.
  2. Which company will be cheapest if you plan to drive 300km?

1. There are two competing video stores. Video Mania rents videos for $2 each plus a one-time membership fee of $10. Cool Movies rents videos for $2.50 each with NO membership fee. When will the cost be the same at either rental store?

Let v be the number of videos rented C = 2v + 10

Let C be the total charge C = 2.5v

1. When Chana rented a car for three days and drove 160km, the charge was $124. When she rented the same car for five days and drove 400km, the charge was $240. What was the charge per day and the charge per km?

Let d be the cost per day 3d + 160k = 124

Let k be the cost per km driven 5d + 400k = 240

1. Charlotte invested $800, part at 9% per year and the rest at 12% per year. After one year, the total interested earned was $79.50. How much did she invest at each rate?

Let n be the amount invested at 9% n + t = 800

Let t be the amount invested at 12% 0.09n + 0.12t = 79.50

1. The sum of two numbers is 9. Three times one of the numbers is 15 more than the other number. Find the numbers.

Let x & y be the two numbers x + y = 9

3x – y = 15

|  |
| --- |
| 6. For the school play, one adult ticket costs $5.00 and one student ticket costs $3.00. Twice as many student tickets as adult tickets were sold. The total revenue was $1650. How many of each kind of ticket were sold? |

|  |
| --- |
| 7. Martin wants to hire a plumbing company to fix his leaky faucet. Plumbers R Us charges $50 for the initial consultation and $30/hr for any work required. Faucet Fixers charges $30 for the initial consultation and $40/hr for labour. Which company should Martin choose? What assumptions did you make? |