Car Wash

Juan has a job at the local car wash. He makes $3 per car plus a bonus of $8 per day if there are no complaints about his work.

1. Make a table showing the relation between Juan’s daily pay and the number of cars washed. (Assume that there are no complaints.)

<table>
<thead>
<tr>
<th>Cars washed</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily pay</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Pick letters to represent the variables daily income and the number of cars washed. Write a rule that gives Juan’s daily income (with no complaints) as a function of the number of cars washed.

Letter for daily income_________  Letter for number of cars washed_________

Rule__________________________________________________________

3. Write an equation using NOW and NEXT to show how Juan’s daily pay increases with each additional car that is washed.

NEXT = __________________________________________________________
4. Sketch a graph of the (cars washed, daily pay) data.

5. Describe the pattern you see in words.
Michael and Juanita sell spirit shakers at the high school football game. They are paid $15 per game plus $.25 for each spirit shaker that they sell.

5. Make a table showing how much they can expect to make per game as a function of the number of spirit shakers they sell.

<table>
<thead>
<tr>
<th>Shakers sold</th>
<th>0</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pay per game</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Pick letters to represent the variables pay per game and the number of spirit shakers. Write a rule that gives their pay on game days as a function of the number of spirit shaker sold.

Letter for pay per game_________ Letter for number of spirit shakers_________

Rule__________________________________________________________________

7. Write an equation using NOW and NEXT to show how their pay per game increases with additional sales of spirit shakers.

NEXT = ________________________________________________________________
8. Sketch a graph of the (shakers sold, pay per game) data.

5. Describe the pattern you see in words.
Electrical Works

Suppose you hire an electrician to install a baseboard heater in your family room. The electrician that you hire charges $68 for a service call plus $40 per hour for the work he does at your house. The total cost for installation is a function of the number of hours that it takes to complete the job.

9. Make a table showing how much the job will cost as a function of the number of hours the job takes to complete.

<table>
<thead>
<tr>
<th>Number of hours</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10. Pick letters to represent the variables total cost and the number of hours that it takes to complete the job. Write a rule that gives the total cost for installation as a function of the number of hours that it takes to complete the job.

   Letter for total cost _______   Letter for number of hours to complete the job _________

   Rule ______________________________________________________________________

11. Write an equation using NOW and NEXT to show how the total cost changes with each additional hour that is needed to complete the job.

   NEXT = ___________________________________________________________
12. Sketch a graph of the (number of hours, total cost) data.

5. Describe the pattern you see in words.
Taxi Rates

Taxi rates are increasing in large cities. In New York City a taxi ride costs $3.00 plus $1.10 per mile.

1. Make a table showing how much a taxi ride in New York will cost as a function of the number of miles traveled.

<table>
<thead>
<tr>
<th>Number of miles traveled</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of taxi ride in New York City</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Pick letters to represent the variables cost of a taxi ride and the number of miles traveled. Write a rule for the cost of a taxi ride in New York City as a function of the number of miles traveled.

Letter for cost of taxi ride_________  Letter for number of miles_________

Rule______________________________________________________________

3. Write an equation using NOW and NEXT to show how the cost of a taxi ride increases with each additional mile traveled.

NEXT = ___________________________________________________________
4. Sketch a graph of the (number of miles, cost of taxi ride) data.

5. Describe the pattern you see in words.
Easy Starts Car Rental has the reputation of being the most reasonable car rental in town. They charge a flat rate of $50 plus $.25 per mile driven.

13. Make a table showing how much it will cost to rent a car as a function of the number of miles driven.

<table>
<thead>
<tr>
<th>Number of miles driven</th>
<th>0</th>
<th>50</th>
<th>100</th>
<th>150</th>
<th>200</th>
<th>250</th>
<th>300</th>
<th>350</th>
<th>400</th>
<th>450</th>
<th>500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total cost of rental car</td>
<td>50</td>
<td>75</td>
<td>125</td>
<td>175</td>
<td>225</td>
<td>275</td>
<td>325</td>
<td>375</td>
<td>425</td>
<td>475</td>
<td>525</td>
</tr>
</tbody>
</table>

14. Pick letters to represent the variables total cost and the number of miles driven. Write a rule that gives the total cost of the rental car as a function of the number of miles driven.

Letter for total cost of rental car_______ Letter for number of miles driven_______

Rule__________________________________________________________________

15. Write an equation using NOW and NEXT to show how the total cost of the rental car increases with each additional mile.

NEXT = ___________________________________________________________
16. Sketch a graph of the (number of miles, total cost of rental car) data.

5. Describe the pattern you see in words.
Soda Delivery

The base pay for the soda delivery man is $210 per week. He earns an additional 20% commission on any sales that he makes.

17. Make a table showing the soda delivery man’s weekly income as a function of the dollar amount of sales.

<table>
<thead>
<tr>
<th>Dollar amount of sales</th>
<th>0</th>
<th>100</th>
<th>200</th>
<th>300</th>
<th>400</th>
<th>500</th>
<th>600</th>
<th>700</th>
<th>800</th>
<th>900</th>
<th>1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

18. Pick letters to represent the variables weekly income and dollar amount of sales. Write a rule that gives the weekly income as a function of the sales made.

Letter for weekly income________  Letter for dollar amount of sales________

Rule_______________________________________________________________

19. Write an equation using NOW and NEXT to show how the soda delivery man’s weekly income increases with additional sales.

NEXT = ________________________________
20. Sketch a graph of the (weekly income, sales) data.

5. Describe the pattern you see in words.