

Situation: You are hired to work at quickie-mart and will be paid \$9.50 per hour.

1. Write an income function that describes the amount of money earned based on x hours of work.

$$f(x) =$$

2. Use the income function to find the amount earned in a standard 40 hour week.

3. Find the amount you will earn for an entire summer of work. Each week you work a standard 40 hours and the summer lasts 10 weeks.

4. During the school year, you can only work from 4:00 pm to 9:00 pm on Monday, Tuesday, Wednesday, and Thursday. How much will you earn for your work on Monday through Thursday?

5. Let T = the total income earned for all seven days, F = income earned on Friday, and S = income earned on Saturday. Write an equation for T that describes the total earned over the seven days of work during the school year (use your answer from #4 as the value for Monday through Thursday).

6. The first week of school, you earned a total of \$273 and did NOT work on Saturday.
 - a. How much money did you earn on Friday? *Note: use your equation from #5*
 - b. How many hours did you work on Friday?

7. The second week of school, you earned a total of \$378 and worked the same hours on Friday as you worked on Saturday. *Note: use your equation from #5*
 - a. How much total money did you earn on Friday and Saturday?
 - b. How many total hours did you work on Friday and Saturday?
 - c. If you started work at 10:00 AM on Saturday, then what time did your shift end?

Performance Task 1 continued...

Congratulations!! You have been given a raise and now earn \$12.25 per hour.

Here is your time card for the third week of school:

Day	Start	End	Hours Worked	Money Earned
Monday	4:00PM	8:00PM		
Tuesday	5:00PM	6:30PM		
Wednesday	4:00PM	9:00PM		
Thursday	Off			
Friday	4:30PM	11:00PM		
Saturday	9:00AM	3:00PM		
Sunday	Off			
Total				

8. Complete the time card above and use the information to answer the following questions:
- Your employer deducts 25% of your earnings to pay for local, state, and federal taxes. How much money did you earn after 25% is deducted?
 - Your goal for the week was to earn enough money to buy a stereo for \$225. Did you earn enough (after taxes) to buy the stereo?

Here is your time card for the fourth week of school:

Day	Start	End	Hours Worked	Money Earned
Monday	4:00PM	7:00PM		
Tuesday	5:00PM		4.5 hours	
Wednesday		9:00PM	3 hours	
Thursday	4:00PM			\$61.25
Friday		11:00PM		\$73.50
Saturday	9:00AM			
Sunday	Off			
Total			25 hours	

9. Complete the time card above and use the information to answer the following questions:
- Your employer deducts 25% of your earnings to pay for local, state, and federal taxes. How much money did you earn after 25% is deducted?
 - (Challenge) Your goal for the week was to earn \$250 after taxes. You need to ask your boss to work on Sunday to make the extra money. How many hours should you work if it must be rounded to the nearest half hour?

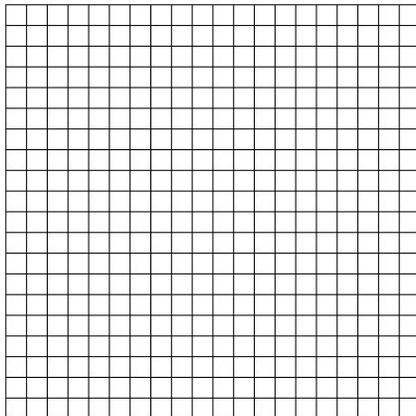
Performance Task 1 continued...

Here is a summary of your time cards for weeks 5 to 10: Note: you make \$12.25 per hour.

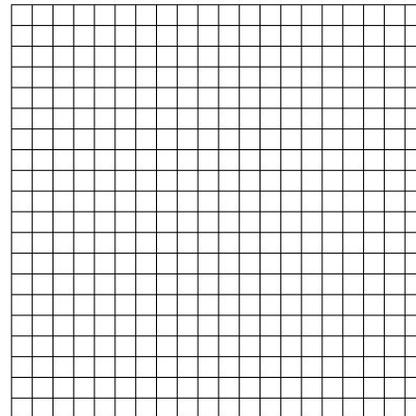
Week	Hours Worked	Gross Income (money earned before taxes)	Net Income (money earned after 25% tax)
1	22		
2		\$165.38	
3	27.5		
4		\$367.50	
5			\$220.50
Total		<i>G</i>	<i>I</i>

10. Complete the time card above and use the information to answer the following questions:
- Find the average number of hours worked per week.
 - Your boss claims that the amount in the box labeled *I* (total net income) shows a 30% deduction from the box labeled *G* (total gross income). Is your boss correct? Show your work and explain.

11. Make a bar graph for hours worked each work.



12. Make a line graph for Net Income each week.



13. The following equation will find *p*, the take-home pay where *t* is the tax rate as a decimal, *w* is the hourly wage, and *h* is the hours worked.

$$p = (1 - t) \cdot w \cdot h$$

- Find the take-home pay given a 30% tax rate, an hourly wage of \$10/hr., a total of 22 hours worked.
- Find the hours worked if your take-home pay is \$70.40, tax rate is 20%, and wages are \$11/hr.
- Find an equation for wages by solving the equation for *w*.
- Find an equation for the tax rate by solving the equation for *t*.