Review – Chapter 3

1. The table shows the attendance at a minor-league baseball game for the first 8 games of the season.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Game | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Attendance | 8,673 | 8,903 | 9,103 | 9,091 | 9,117 | 9,134 | 9,256 | 9,573 |

1. Determine a linear regression equation for the data.
2. Identify the correlation coefficient, or r-value, of the line. What does this value tell you?
3. Predict the attendance for game 12. Show your work and explain your reasoning.
4. Bradley has $175 to spend at the electronics store. He decides to buy video games and DVDs with his money. Video games cost $40 each and DVDs cost $15 each.
5. Write an equation to represent this problem situation. Use v to represent the number of video games and d to represent the number of DVDs.
6. If Bradley buys 2 video games, what is the greatest number of DVDs he can buy? Show your work and explain your reasoning.
7. If Bradley buys no DVDs, what is the greatest number of video games he can buy? Show your work and explain your reasoning.
8. Solve the formula $A=\frac{1}{2}\left(b\_{1}+b\_{2}\right)h $for h. Show your work.
9. Write the equation $y=-\frac{2}{3}x-7$ in standard form.
10. Write the equation $5x+2y=-6$ in slope-intercept form.
11. What is the y-intercept for the equation $4x-3y=-18$?
12. What is the x-intercept for the equation $4x-3y=-18$?
13. Mr. Wendell operates a concession stand at the park. He charges $3.25 for each hot dog, and each month four lucky customers get a free hot dog. He always sells more hot dogs than he gives away.
14. Write a linear function to represent the amount of money Mr. Wendell earns each month. Let x represent the number of hot dogs.
15. How much would Mr. Wendell earn in a month if he distributed 55 hot dogs out to customers? Show your work.
16. The next month, Mr. Wendell decides to also sell hamburgers for $4.75 each. Each month two lucky passers-by get a free hamburger. He always sells more hamburgers than he gives away. Write a linear function to represent the amount of money Mr. Wendell earns each month from hamburger sales. Use x for the number of hamburgers distributed.
17. Mr. Wendell writes a function for the total amount of money he will earn for selling both types of sandwiches. His work is shown below. Is Mr. Wendell correct? Explain why or why not.

$$p\left(x\right)=h\left(x\right)+b(x)$$

$$p\left(x\right)=3.25\left(x-4\right)+4.75(x-2)$$

$$p\left(x\right)=3.25x-13+4.75x-9.5$$

$$p\left(x\right)=8x-22.5$$

1. A company used the function $r\left(x\right)=7x+15,000$ to predict the amount of the revenue they will earn next year. The company also used the function $c\left(x\right)=2x-2,000$ to predict the amount they will spend in costs next year. Write a function that shows the amount of profit, p(x), the company predicts to earn after costs?