Homework 2.4: Applications of Piecewise Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Math 3

1. Use the piecewise function to evaluate the following:
2. Graph the following piecewise function.



* 1. f(-1) =
	2. f(-4) =
	3. f(9) =
	4. f(6) =



1. Use the piecewise function to fill in the table.



1. Sully’s blood pressure changes throughout the school day. Sketch a graph of his blood pressure over time. **LABEL THE GRAPH!** Let x stand for the time since 8:00 am, so 10:00 am would be x = 2, 12:00 pm would be

x = 4, etc…

Sully’s Day

* Sully’s blood pressure starts at 90 and rises 5 points every hour for the first 4 hours.
* Sully chills out for lunch from 12-1 and maintains a cool 110 blood pressure.
* Last period of the day is from 1-3 pm and Sully’s blood pressure rises from 110 at 10 points per hour.
* School ends and Sully’s blood pressure starts dropping 2 points per hour until his 8 o’clock bedtime.
1. Use the picture of the piecewise function to answer the following:

|  |  |  |  |
| --- | --- | --- | --- |
| **Graph** | **Equation of Pieces** | **Domain for Pieces** | **Piecewise Function** |

1. Ms. Russell wants to make t-shirts for his Math 3 students (shown below). Custom Ink will make the shirts and sell them for the following prices. Write a piecewise function to represent cost, y, in dollars and t-shirts, x. Graph it! Label the graph!





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| **SAT Practice** |
| 1. Minli’s house is located 1.4 miles from her school. When she walks home from school, it takes her an average of 24 minutes. Assuming that Minli walks at a constant rate, which of the following functions best models Minli’s distance from home, d, in miles if she has walked a total of t minutes on her trip home that day?

 | 1. The absolute pressure, P, in a fluid density, p, at a given depth, h, can be found with the above equation, where Po is the atmospheric pressure and g is the gravitational acceleration. Which of the following is the correct expression for the depth in terms of the absolute pressure, atmospheric pressure, fluid density, and gravitational acceleration?

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