**Practice: Piecewise Functions**

**Use the piecewise function f(x) below to answer the following questions:**

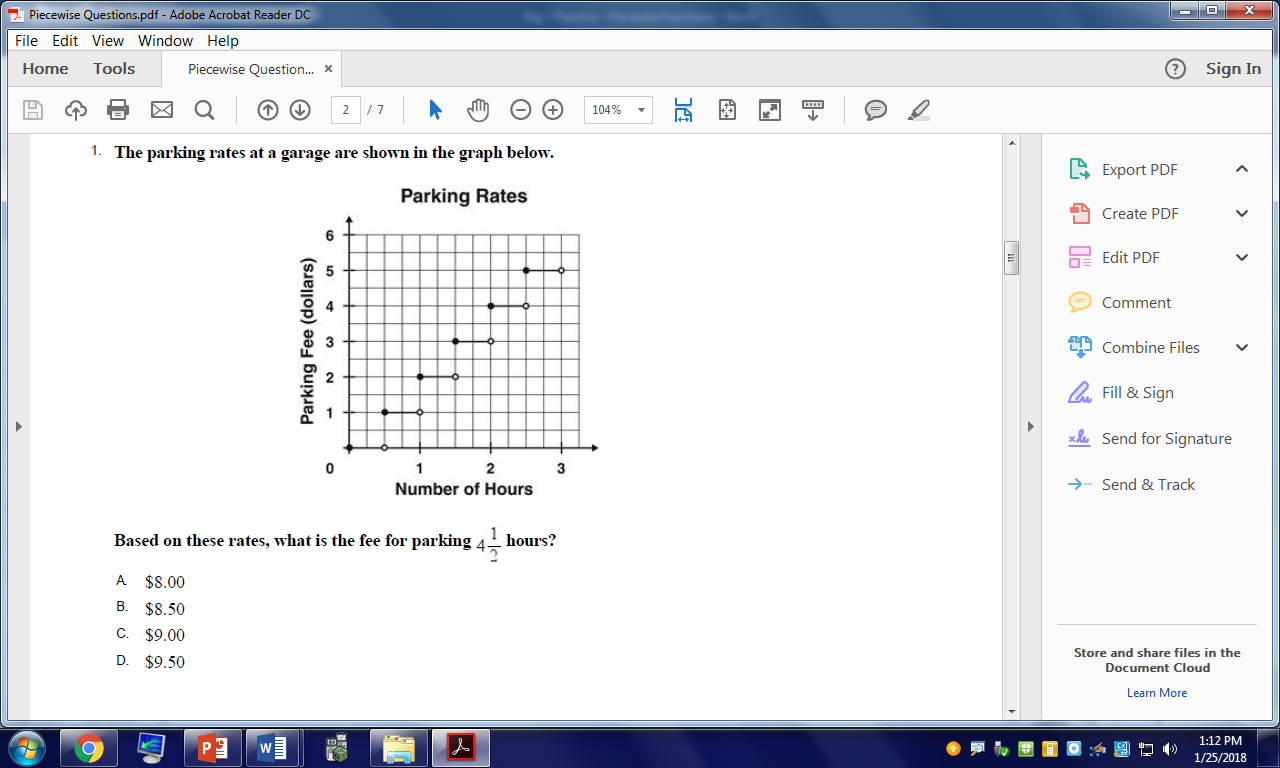
1. Given f(x), what input is not in the domain? Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Evaluate = \_\_\_\_\_\_\_\_\_\_
3. Evaluate = \_\_\_\_\_\_\_\_\_\_
4. What is the value of = \_\_\_\_\_\_\_\_\_\_
5. Find = \_\_\_\_\_\_\_\_\_\_

**A cell phone company sells data based on the piecewise function below where x represents the number of gigabytes of data used and c(x) represents the total monthly bill.**

1. What would be the cost of your monthly bill if you used 3 gigabytes of data? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. How much would your bill be if you used 10 gigabytes of data? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. If you used 2 gigabytes of data this month, what was your bill? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Use the piecewise function h(x) below to answer the following questions:**

1. What is \_\_\_\_\_\_\_\_\_\_
2. Find : \_\_\_\_\_\_\_\_\_\_
3. The piecewise function below represents the total cost, *t(x),* to buy *x* shirts from a clothing company.
4. If 26 shirts are purchased, what is the cost per shirt? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. If 100 shirts were bought, how much would each shirt cost? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Find the cost of an order with 66 shirts. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. **The Charlotte Shipping Company needs to create an advertisement flyer for its new pricing for medium boxes shipped within Mecklenburg County. In the piecewise function below, *c* represents the cost and *p* represents pounds.**
8. How could someone with a fifteen-pound box find the cost of shipping? What would this cost be? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. What would be the price to ship a 10 pound box? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. If someone’s shipping bill was $18.53, did their box weigh more or less than pounds? How do you know? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ What was the weight of this box? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. The parking rates at a garage are shown in the graph below.
   1. What is the fee for parking 2 hours? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. How much would it cost to part for ½ hour? \_\_\_\_\_\_\_\_\_\_\_
   3. What is the cost for park 4 ½ hours? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Sarah earns $8 an hour for each hour worked in a week, up to 40 hours. After 40 hours, Sarah earns $12 an hour. Create a piecewise function to represent Sarah’s pay for working x hours in a week.

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\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Graph the piecewise function below by creating tables. Then, identify the domain and range of each step.

**Step 1:**

Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Step 2:**

Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Step 3:**

Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_