Extra Piecewise Problems

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| 1. Graph each function. |
| a)  | b)  |
| c)   | d)  |
| e)   | f)  |
| 2. Evaluate the function for the given value of *x*. |
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| a)  | b)  | c)  |
| d)  | e)  | f)  |
| 3. Match the piecewise function with its graph. |
| I.  | II.  | III.  |
| IV.  | V.  | VI.  |
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| 4. For the following function *g(x)*, decide if each of the statements is correct, by circling true or false. If it is incorrect, fix the equation or domain restriction to make it true. |
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| T | F | a) From A to B, the restriction is . |
| T | F | b) From B to C, the equation is .  |
| T | F | c) From C to D, the equation is . |
| T | F | d) To the right of E, the equation is .  |
| T | F | e) To the right of E, the restriction is . |

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| 5. Write the function that describes the graph.  |
| a)  |  |
| b)  |  |
| 6. The admission rates at an amusement park are as follows.  |
| Children 5 years old and under: freeChildren between 5 & 12 years old, inclusive: $10.00Children between 12 & 18 years old, inclusive: $25.00Adults: $35.00a) Write a piecewise function that describes the admission price based on a given age. | b) Graph the f unction. Be sure to label your axes.  |
| 7. George has a job that pays $12.00 per hour. He earns his regular pay for the first forty hours he works in a week, and any hours over forty are earned at time and a half.  |
| a) Write a piecewise function that describes the George’s weekly pay.c) How much would George earn for a 34 hour week?d) How much would George earn for a 42 hour week?e) How much would George earn for a 51 hour week? | b) Graph the f unction. Be sure to label your axes.  |
| 8. The amount of Social Security tax you pay, part of your Federal Insurance Contributions Act (FICA) deductions, depends on your annual income. As of 2015 you pay 4% of your income if it is less than $30,000. If your income is at least $30,000, you pay 6.5% of your income. If your income is at least $75,000, you pay a fixed amount of $5500. |
| a) Write a piecewise function that describes the Social Security tax.c) How much Social Security tax do you pay if you make $50,000 per year? | b) Graph the f unction. Be sure to label your axes.  |