### Lesson 10 Practice Problems

1. The cost for an upcoming field trip is $30 per student. The cost of the field trip $C$, in dollars, is a function of the number of students $x$.
* Select **all**the possible outputs for the function defined by $C\left(x\right)=30x$.
	1. 20
	2. 30
	3. 50
	4. 90
	5. 100
1. A rectangle has an area of 24 cm2. Function $f$ gives the length of the rectangle, in centimeters, when the width is $w$ cm.
* Determine if each value, in centimeters, is a possible input of the function.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| * 3
 | * 0.5
 | * 48
 | * -6
 | * 0
 |

*
1. Select **all**the possible input-output pairs for the function $y=x^{3}$.
	1. $\left(-1,-1\right)$
	2. $\left(-2,8\right)$
	3. $\left(3,9\right)$
	4. $\left(\frac{1}{2},\frac{1}{8}\right)$
	5. $\left(4,64\right)$
	6. $\left(1,-1\right)$
2. A small bus charges $3.50 per person for a ride from the train station to a concert. The bus will run if at least 3 people take it, and it cannot fit more than 10 people.
* Function $B$ gives the amount of money that the bus operator earns when $n$ people ride the bus.
	1. Identify all numbers that make sense as inputs and outputs for this function.
	2. Sketch a graph of $B$.
* 
1. Two functions are defined by the equations $f\left(x\right)=5−0.2x$ and $g\left(x\right)=0.2\left(x+5\right)$.

Select **all** statements that are true about the functions.
	1. $f\left(3\right)>0$
	2. $f\left(3\right)>5$
	3. $g\left(-1\right)=0.8$
	4. $g\left(-1\right)<f\left(-1\right)$
	5. $f\left(0\right)=g\left(0\right)$
* (From Unit 4, Lesson 5.)
1. The graph of function $f$ passes through the coordinate points $\left(0,3\right)$ and $\left(4,6\right)$.
* Use function notation to write the information each point gives us about function $f$.
* (From Unit 4, Lesson 3.)
1. Match each feature of the graph with the corresponding coordinate point.
* If the feature does not exist, choose “none”.
* 
* ​​​​​
	1. maximum
	2. minimum
	3. vertical intercept
	4. horizontal intercept
	5. $\left(0,7\right)$
	6. $\left(1.5,2\right)$
	7. $\left(4,16\right)$
	8. none
* (From Unit 4, Lesson 6.)
1. The graphs show the audience, in millions, of two TV shows as a function of the episode number.
* Show A
* 
* Show C
* 
* For each show, pick two episode numbers between which the function has a negative average rate of change, if possible. Estimate the average rate of change, or explain why it is not possible.
* (From Unit 4, Lesson 9.)



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