**Math 161 Quiz 12**

**Name:**

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[Run: 03/16/2016 at 15:29 Seed: 6477. Order of Checkable Items: List.]

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**Response Grid** *(Check the appropriate boxes thus: X)*

<table>
<thead>
<tr>
<th>Question</th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
<th>e</th>
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</thead>
<tbody>
<tr>
<td>1</td>
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<td>3</td>
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</tbody>
</table>

**Q12-1.** Let \( f \) be the function specified by the global input-output rule

\[
x \xrightarrow{f} f(x) = +2x^2 + 2x - 24
\]

for which input(s), if any, is the output of \( f \) equal to 0?

**Your Work:**

1. You must make your case for whatever you are asserting.

   ... 

   

   ii. Circle which of the following choices corresponds to your result.

   a. \(-4, +3\)  
   b. \(+4\)  
   c. \(-3, +4\)  
   d. No such input  
   e. None of the preceding

   iii. Check the corresponding box in the **Response Grid** on the front page thus: X

**Q12-2.** Let the function \( JIM \) be specified by the global input-output rule

\[
x \xrightarrow{JIM} JIM(x) = +6x^2 - 24
\]

for which input(s), if any, is the output of \( JIM \) negative?

**Your Work:**

...
i. You must make your case for whatever you are asserting.

<table>
<thead>
<tr>
<th>Response Grid</th>
<th>X</th>
</tr>
</thead>
</table>

ii. Circle which of the following choices corresponds to your result.

- a. All inputs larger than 0
- b. All inputs outside the interval $[-2, +2]$
- c. All inputs inside the interval $[-2, +2]$
- d. No such input
- e. None of the preceding

iii. Check the corresponding box in the **Response Grid** on the front page thus: X

$qz12-3$. Let the function $f$ be specified by the global input-output rule

$$x \xrightarrow{f} f(x) = -3x^2 + 12x + 5$$

for which input(s), if any, is Slope-sign $f = (\nearrow, \nearrow)$?

**Your Work:**

i. You must make your case for whatever you are asserting.

<table>
<thead>
<tr>
<th>Response Grid</th>
<th>X</th>
</tr>
</thead>
</table>

ii. Circle which of the following choices corresponds to your result.

- a. All inputs
- b. All inputs smaller than +2
- c. All inputs larger than $-2$
- d. No such input
- e. None of the preceding

iii. Check the corresponding box in the **Response Grid** on the front page thus: X