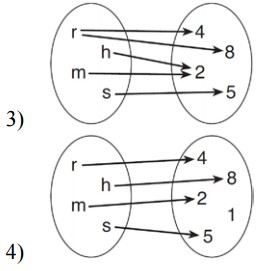
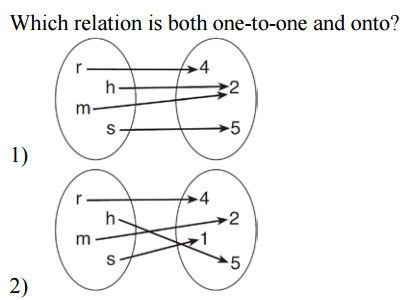
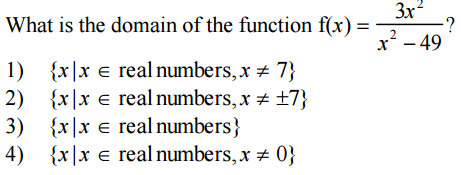
**I. Multiple Choice** - Answer each question in this part on the line provided. Each question in this part is worth*2 points.*

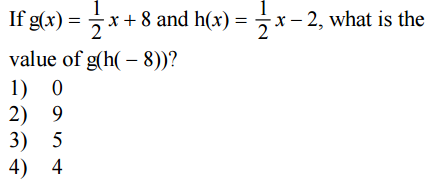
\_\_\_\_ 1.



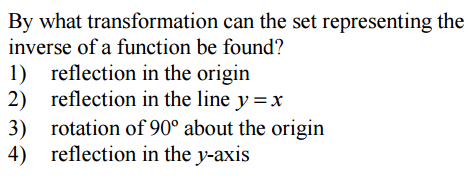
\_\_\_\_ 2.



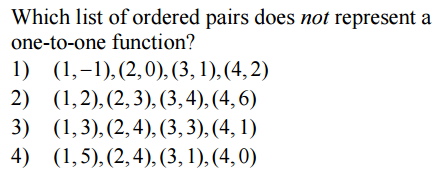
\_\_\_\_ 3.



\_\_\_\_ 4.



\_\_\_\_ 5.



\_\_\_\_ 6. The graph of the quadratic function  includes the following coordinates: ***A***(0, 16), ***B***(2, 4), and ***C***(5, 31). What are the new coordinates based on the transformation

|  |  |  |  |
| --- | --- | --- | --- |
| 1) | ***A’***(16, 0), ***B’***(4, 2), ***C’***(31, 5) | 3) | ***A’***(0, 16), ***B’***(-2, 4), ***C’***(-5, 31) |
| 2) | ***A’***(0, -16), ***B’***(2, -4), ***C’***(5, -31) | 4) | ***A’***(0, -16), ***B’***(-2, -4), ***C’***(-5, -31) |

**II.** Each question is worth *4 points.* Partial credit will be allowed. Show all work in order to reveive full credit. A correct response with no work shown will receive only one credit.

7. Consider the functions and

a) Find 

b) Solve the equation 

.

8.



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.

**III.** Each question is worth *6 points.* Partial credit will be allowed. Show all work for full credit. A correct response with no work shown will receive only one credit.

10. For the given relation

(a) State the inverse.

(b) Prove that your result is correct using compositions.

.

11. Classify the symmetry of each function as even, odd, or neither. Use the justification box to justify your answer.

|  |  |  |
| --- | --- | --- |
| **Function** | **Classification** | **Justification** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |