1) Determine whether the relation is a function. Give the domain and range for the relation.
{(7, 9), (7, 10), (7, 11)}
Solution:
Domain of the relation is {7}
The range of the relation is {9, 10, 11}

Is a relation a function?
No.
Because for an x-value there corresponds more than one y-value.

2) Find the indicated function values for the function \( h(x)=3x^2+4 \)
Solution:
\( h(0)=3(0)^2+4=4 \)
\( h(-1)=3(-1)^2+4=3+4=7 \)
\( h(2)=3(2)^2+4=3(4)+4=12+4=16 \)
\( h(-5)=3(-5)^2+4=3(25)+4=75+4=79 \)
\( h(8b)=3(8b)^2+4=3(64b^2)+4=192b^2+4 \)

3) Use the table below to find indicated function values:

<table>
<thead>
<tr>
<th>( x )</th>
<th>( f(x) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>-4</td>
<td>-1</td>
</tr>
<tr>
<td>-2</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

a) \( f(-4)=-1 \)
b) \( f(4)=3 \)
c) For what value of \( x \) is \( f(x)=1? \) Ans: \( x=0 \)

4) Use the table below to find the indicated function values.

<table>
<thead>
<tr>
<th>( x )</th>
<th>( h(x) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>-2</td>
<td>2</td>
</tr>
<tr>
<td>-1</td>
<td>1</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

a) \( h(-2)=2 \)
b) \( h(2)=2 \)
c) For what values of \( x \) is \( h(x)=1? \) Ans : \( x=-1,1 \)
5) Find the domain of the function.
   \[ g(x) = x + \frac{4}{5-x} \]
   Domain: \( x \neq 5 \) i.e. \( x \in (-\infty, 5) \) or \( (5, \infty) \)

6) Find the domain of the function.
   \[ f(x) = 16x + 11 \]
   Domain: \( (-\infty, \infty) \)

7) Use the graph of \( g \) to solve.
   Find \( g(-14) \):

   From the graph \( g(-14) = 4 \)

8) Use the graph of \( f \) to find the indicated function value.

   \[ f(-2) = -9 \]

We've compiled a comprehensive list of MyMathLab Answers that could be helpful.
9) Use the vertical line test to identify graphs in which \( y \) is a function of \( x \).
Which of the following statements is correct?
- \( y \) is a function of \( x \)
- \( y \) is not a function of \( x \)

The vertical line test states that if any vertical line intersects a graph in more than one point, then the graph does not define \( y \) as a function of \( x \).
Test the given graph by drawing a vertical line through it: the center of the circle. This line intersects the graph at exactly two points. Therefore, \( y \) is not a function of \( x \).

10) Use the vertical line test to determine if \( y \) is a function of \( x \) in the given graph

Which of the following statements is correct? Choose the correct answer below.
- \( y \) is not a function of \( x \)
- \( y \) is a function of \( x \)
The vertical line test for functions says if any vertical line intersects a graph in more than one point, the graph does not define y as a function of x. Consider several vertical lines drawn along the length of the graph. There is no vertical line which intersects the given graph in more than one point. In this case, no vertical line can be drawn that will intersect this graph at more than one point, Therefore, y is a function of x.

11) Determine whether the given graph represents a function that has an inverse function.

Does the given graph represent a function that has an inverse function? Choose the correct answer below.

A. No, the given graph does not represent a function with an inverse function because no horizontal line can be drawn that intersects the given graph more than once.
B. Yes, the given graph does represent a function with an inverse function because horizontal lines can be drawn that intersect the given graph more than once.
C. No, the given graph does not represent a function with an inverse function because horizontal lines can be drawn that intersect the given graph more than once.
D. Yes, the given graph does represent a function with an inverse function because no horizontal line can be drawn that intersects the given graph more than once.

Option D is correct.