Sketch the graph of the given function.

1) \( f(x) = 30\left(\frac{1}{5}\right)^x \)

Use the graph to find the requested value.

4) \( f(x) = \frac{1}{5} \)

Sketch the graph of both functions on the same coordinate system.

2) \( f(x) = 5\left(\frac{1}{2}\right)^x, \quad g(x) = -5\left(\frac{1}{2}\right)^x \)

5) Find \( x \) when \( f(x) = -1 \).

A graph of a function of the form \( y = ab^x \) is given. What can you conclude about the constants \( a \) and \( b \)?

3) \( y = ab^x \)

The table lists some input-output pairs for an exponential function \( f \). Use the table to find the requested value.

6) Find \( f(3) \).

<table>
<thead>
<tr>
<th>( x )</th>
<th>( f(x) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1250</td>
</tr>
<tr>
<td>1</td>
<td>250</td>
</tr>
<tr>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>
Answer Key
Testname: INT ALG 4_3

1) 

2) 

3) $a > 0, \ b > 1$
4) $a < 0, \ b > 1$
5) 1
6) 10