1. Are the following functions one-to-one? If so and represented with a graph, draw their inverse.

(a) 

(b) 

(c) 

<table>
<thead>
<tr>
<th>Sarah</th>
<th>Apple</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mike</td>
<td>Video Games</td>
</tr>
<tr>
<td>Angel</td>
<td>Guitar</td>
</tr>
<tr>
<td>Ann</td>
<td>Drums</td>
</tr>
<tr>
<td>Sophie</td>
<td>Guitar</td>
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</tbody>
</table>

2. What is the domain of the function $f(x) = \ln(x^2 - 6x + 9)$?

3. Solve: $\frac{1}{x-5} < 7$.

4. Find the domain: $f(x) = \sqrt{3 - \sqrt{x - 2}}$
5. Sketch the graph of \( f(x) = |x^2 - 2x| \).

6. For the function \( f(x) \) graphed below, give the following:

   (a) \( \lim_{x \to 2} f(x) \)
   (b) \( \lim_{x \to 3} f(x) \)
   (c) \( \lim_{x \to -3^-} f(x) \)
   (d) \( \lim_{x \to -3^+} f(x) \)
   (d) The vertical asymptotes

7. Draw a function \( f(x) \) such that: \( \lim_{x \to 2^-} f(x) = -2, \lim_{x \to 2^+} f(x) = 0, \) and \( f(2) = 2 \).