Worksheet 4: More PreCalc?!

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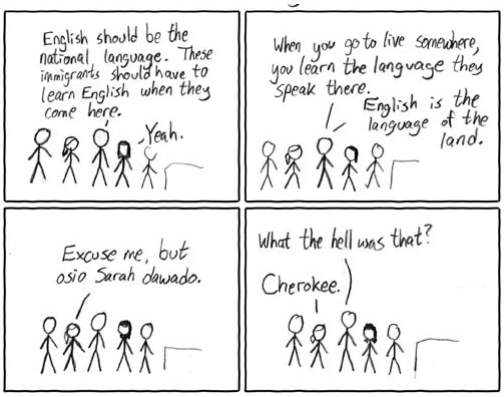

www.xkcd.com

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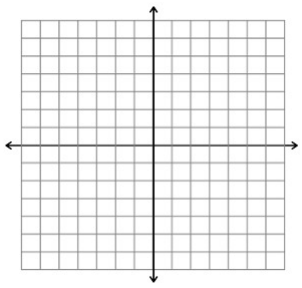
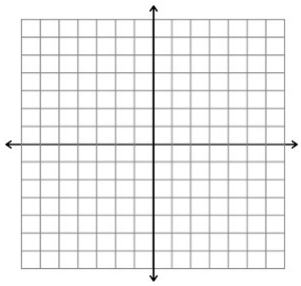
1. Are the following functions one-to-one? If so and represented with a graph, draw their inverse.

   (a)

   (b)

   (c)

Sarah	Apple
Mike	Video Games
Angel	Guitar
Aun	Drums
Sophie	Guitar

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

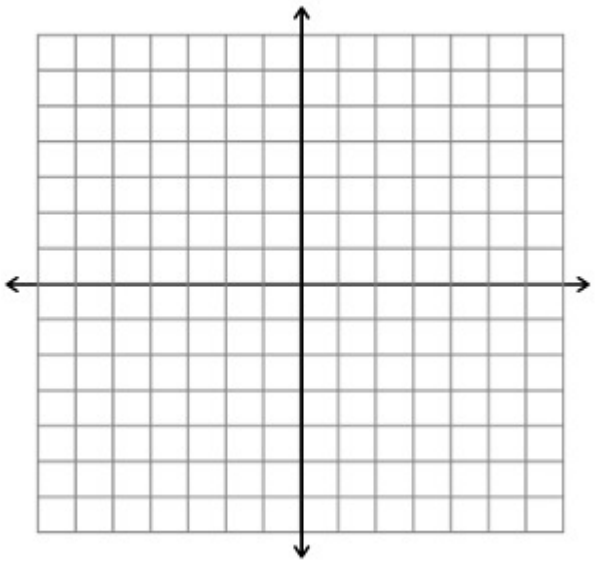
3. Solve: $\frac{1}{x-5} < 7$.

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) $\lim_{x \to 5} f(x)$
(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 $f(2) = 2$.