

Directions: For each item below, give a complete response that represents a good-faith effort to be right. You will receive a "check" if each item has such a response, and an "x" otherwise. An "x" will be given if *any* item is left blank, shows insufficient effort, or has responses such as "I don't know" or "I don't understand". Except for the final item (which is done by filling out a Google Form), do all work on separate pages, and submit a scanned black/white PDF **by email** to talbertr@gvsu.edu.

1. Let $A = \{1, 3, 5\}$ and $B = \{1, 2, 3\}$. Find each of the following:

- (a) $A \cap B$
- (b) $A \cup B$
- (c) $A \times B$
- (d) $B \times A$ (Is it equal to the previous set?)
- (e) $A \setminus B$
- (f) $B \setminus A$
- (g) $\mathcal{P}(A)$
- (h) $|A|$
- (i) $|B|$
- (j) $|A \cup B|$
- (k) $|A \times B|$
- (l) $\mathcal{P}(A)$

- 2. Go to student.desmos.com and sign in (either by setting up a Desmos account, using an existing Desmos account, or using a Google account). Use the code G9V XYC. Then do the activity "Set theory card sort".
- 3. If you have questions about the content, please list them. (Otherwise this is optional.)