Quiz 8

Math 2001–002, Fall 2016

October 31

Question 1. Let A be the set $\{\{1\}, 2, \varnothing\}$. Which of the following statements are true?

A) $A \subseteq A$

B) $A \in A$

C) $\varnothing \subseteq A$

D) $\varnothing \in A$

E) $\{1\} \subseteq A$

F) $\{1\} \in A$

G) $1 \in A$

H) $2 \in A$

I) $\{2\} \in A$

J) $\{2\} \subseteq A$

Question 2. Use set-builder notation to construct the set of all integer multiples of 3.

Question 3. Let A and B be given by the following formulas:

$$A = \{\varnothing, \{1, 2, 8\}, \{7\}\}$$
$$B = \{S \in A \,:\, |S| > 1\}$$

Write a list of all elements of B.

Question 4. Let A be the set $\{(x, y) \in \mathbb{R}^2 \,:\, x \leq 0\}$. Let B be the set $\{(x, y) \in \mathbb{R}^2 \,:\, x^2 + y^2 \leq 1\}$. Draw a picture of $A \cap B$ inside $\mathbb{R}^2$ (with labelled axes).