

Mathematics 300 Homework, October 4, 2017.

Memorize Definition 5.1 on Page 105 of the text. (That is the definition of $a \equiv b \pmod{n}$.) This will be on Friday's quiz.

On Page 110 of the text o Problems 15 17, 19, 29.

Do the following problems to hand in.

1. Let n be a positive integer and a and b any integers. Prove the following:
 - (a) $a \equiv a \pmod{n}$.
 - (b) If $a \equiv b \pmod{n}$, then $b \equiv a \pmod{n}$.
2. Let n be a positive integer and a , b , and c any integers. Prove the following:
 - (a) If $a \equiv b \pmod{n}$ and $b \equiv c \pmod{n}$, then $a \equiv c \pmod{n}$.
 - (b) If $a \equiv b \pmod{n}$, then $a + c \equiv b + c \pmod{n}$.