**Directions:** Solve the following problems. All written work must be your own. See the course syllabus for detailed rules.

1. Let a, a', b, b', and m be integers such that  $a \equiv a' \pmod{m}$  and  $b \equiv b' \pmod{m}$ . Prove that  $a + b \equiv a' + b' \pmod{m}$ .