

Modular Arithmetic 1

- 1)
 - a) Suppose it's 4PM and someone wants to meet you in 5 hours. When is your meeting time?
 - b) Suppose it's 10AM and someone wants to meet you in 5 hours. When is your meeting?
 - c) Suppose it's 9PM and you have a meeting in 12 hours. When is your meeting?
 - d) Suppose it's 1PM, and you have a meeting in 19hours. What time is your meeting?

- 2)
 - a) 20 minutes after 5:47 is 6:_____
 - b) 37 minutes after 3:52 is 4:_____

- 3)
 - a) $76 \equiv \text{---} \pmod{12}$
 - b) $52 \equiv \text{---} \pmod{12}$
 - c) $76 \equiv \text{---} \pmod{60}$
 - d) $15 \equiv \text{---} \pmod{7}$
 - e) $15 \equiv \text{---} \pmod{3}$
 - f) $15 \equiv \text{---} \pmod{11}$

- 4)
 - a) What is the last digit of $413 \times 5967 \times 4534$?
 - b) What is $7^6 \pmod{5}$?
 - c) What is $867^5 \pmod{10}$?
 - d) Is 1111111 a multiple of 3?
 - e) What is the remainder of 48574398573002290383907 divided by 9?

- 5) What can an odd prime number be mod 4?

- 6) What can a perfect square be mod 4? What about mod 7?