

# Applied Algebra

**Instructions** Please write your name in the upper right-hand corner of the page. Use complete sentences, along with any necessary supporting calculations, to answer the following questions.

1. Solve the pair of simultaneous linear congruences

$$\begin{cases} x \equiv 5 \pmod{7} \\ x \equiv 10 \pmod{13}. \end{cases}$$

# Applied Algebra

2. Which of the values  $\phi(25)$  and  $\phi(27)$  of Euler's totient function is the greater?