

**Class Activity**

*Solving Equations with Modular Arithmetic*

*Complete the following by showing all steps involved.*

1.  $6x + 12 \equiv 11 \pmod{17}$

2.  $5x + 7 \equiv 12 \pmod{19}$

3.  $4x + 8 \equiv 17 \pmod{17}$

4.  $8x + 3 \equiv 10 \pmod{13}$

5.  $14x + 2 \equiv 9 \pmod{23}$

6.  $3x + 17 \equiv 2 \pmod{10}$

7.  $5x - 11 \equiv 9 \pmod{13}$

8.  $11x + 18 \equiv 4 \pmod{13}$

9.  $10x + 18 \equiv 8 \pmod{23}$

Use the answers to the questions above to decipher this secret message.

7 - 3 - 8 - 3 - 3 - 7 - 2 - 1 - 7 - 2 - 9 - 3 - 4 - 7 - 6 - 9 - 4 - 5