Name: _____

Directions: Show all work. No credit for answers without work.

1. [**3 parts, 2 points each**] Caeser shift cypher

   (a) Complete the substitution table for the Caeser/shift cypher with key $k = 7$.

plaintext	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
cyphertext																										

   (b) Using the key $k = 7$, encrypt the message "Abort Operation".

   (c) Using the key $k = 7$, decrypt the message `HZZLA JVTWY VTPZL K`.

2. [**4 points**] Let $d = \gcd(5293, 3397)$. Use the extended Euclidean algorithm to compute d and find integers u and v such that $d = (5293 \cdot u) + (3397 \cdot v)$.