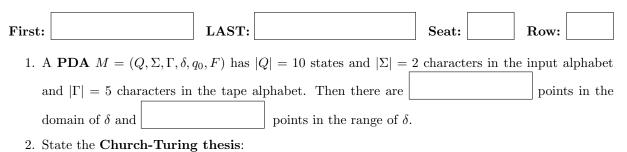
Quiz 3



- 3. Let A and B be languages. Define $A \leq_{m} B$ (A many-one reduces to B):
- 4. When we define the language $A_{\text{TM}} = \{\langle M, w \rangle : \text{TM } M \text{ accepts } w\}$, what is the purpose of the **angle brackets** (the $\langle \rangle$ symbols) that surround M, w?

5. Darken the correct box. No justification is required. If you're not sure, guess.

(a) True	False	If L is recursive then so is its complement, \overline{L} .
(b) True	False	If L^* is recursive than L is recursive.
(c) True	False	If L is context free then a queue automata (QA) can decide it.
(d) True	False	The r.e. languages are closed under complement.
(e) True	False	$L = \{ \langle M \rangle : \ L(M) \neq \emptyset \}$ is Turing-acceptable (r.e.)
(f) True	False	$L = \{a^n b^n : n \ge 1\}$ is co-r.e.
(g) True	False	If $\Pi \leq_{\mathrm{m}} L$ and Π is undecidable than L is undecidable.
(h) True	False	To show that L is not r.e., it suffice to show that $A_{\text{TM}} \leq_{\text{m}} L$.
(i) True	False	To show that L is not r.e., it suffice to show that $\overline{A_{\text{TM}}} \leq_{\text{m}} L$.
(j) True	False	A language L is either r.e. or co-r.e
(k) True	False	The Turing-acceptable languages are closed under intersection.
(l) True	False	The Turing-acceptable languages are closed under set difference.