

*This quiz is worth 10 points and you have 10 minutes to complete it. Show all work and circle your final answers.*

**Calculators are NOT allowed today.**

**1.** (4 pts) Solve the inequality  $2x^2 - 7x + 3 < 0$ .

**2.** (6 pts) Suppose  $A$ ,  $B$ , and  $C$  are statements such that:

- $C$  is true,
- $C \Rightarrow (\text{Not } B)$  is true, and
- $(\text{Not } A) \Rightarrow B$  is true.

(a) Prove *directly* that the statement  $A$  must be true.

(b) Prove *by contradiction* that the statement  $A$  must be true.