

1.2.13

$$\text{inequal triangle} = |P| + |Q| \geq |P + Q|$$

$$(|P| + |Q|)^2 \geq |P + Q|^2$$

$$|P|^2 + 2|PQ| + |Q|^2 \geq |P + Q|^2$$

$$|P|^2 + 2|PQ| + |Q|^2 \geq |P|^2 + 2PQ + |Q|^2$$

$$2|PQ| \geq 2PQ$$

since  $|P \cdot Q| \geq 0$  so they are in same direction  
cannot be equal triangle which approve  
as not equal triangle