## Additional Problems Assignment 10

1. Find the exact value of $\sin (2 \theta), \cos (2 \theta)$, and $\tan (2 \theta)$, given:
(a) $\sin (\theta)=3 / 5$ with $0 \leq \theta \leq \frac{\pi}{2}$.
(b) $\sin (\theta)=3 / 5$ with $\frac{\pi}{2} \leq \theta \leq \pi$.
(c) $\tan (\theta)=-1 / 5$ with $\frac{\pi}{2} \leq \theta \leq \pi$.
2. Considered a general triangle labeled as below (note it can either look like (a) or (b)).

(a) Suppose $a=17, c=14$, and $B=30^{\circ}$ find b.
(b) Suppose $b=17, c=12$, and $A=24^{\circ}$ find B.
(c) Suppose $c=189, a=150$, and $C=85^{\circ}$ find A.
(d) Suppose $a=25, b=38$, and $C=\frac{\pi}{15}$ find c.
3. Using the notation from above solve the following triangle (that is find the unknown side lengths and unknown angle).
(a) $a=125, A=54^{\circ}, B=65^{\circ}$
(b) $a=512, b=426, A=48.3^{\circ}$
(c) $a=6.34, b=7.30, c=9.98$
