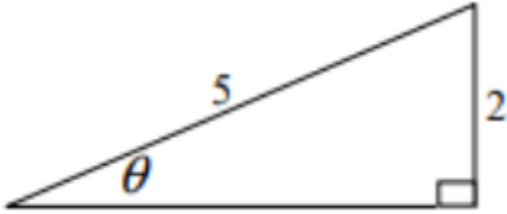## Unit 3 Review

1. Find all 6 Trig Functions:
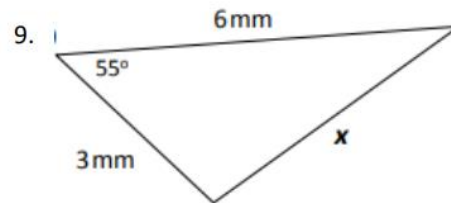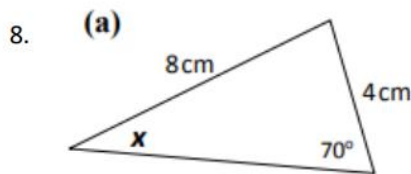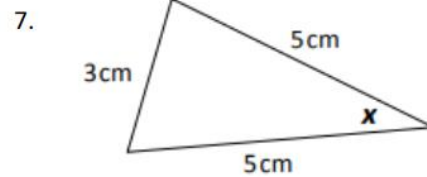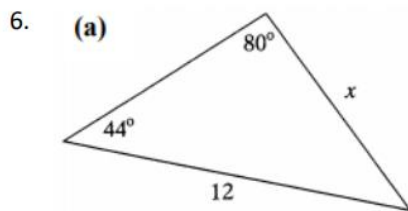

2. Find all 6 Trig Functions: (5, -3)

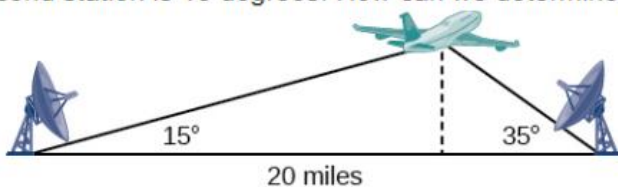3. Find $tan\theta$ if $csc\theta = \frac{7}{2}$.

4. Name the quadrant $\angle B$ must lie if $sinB < 0$ and $tanB > 0$

5. Mount Fuji in Japan is approximately 12,400 feet high. Standing several miles away, you estimate the angle of elevation to the top of the mountain is 30°. Approximately how far away are you from the base of the mountain?

Solve for the missing measure:

6. (a)

7.

8. (a)

9.

10. Suppose two radar stations located 20 miles apart each detect an aircraft between them. The angle of elevation measured by the first station is 35 degrees, whereas the **angle of elevation** measured by the second station is 15 degrees. How can we determine the altitude of the aircraft?

11. Find coterminal angles for $\theta = \frac{3\pi}{4}$ that fall in the interval *(a.)* $[-8\pi, -3\pi)$ and *(b.)* $\left(\frac{11\pi}{4}, \frac{35\pi}{4}\right)$

12. Find the reference angle for $\theta = \frac{3\pi}{4}$.

13. If you have a 45-45-90 triangle whose hypotenuse is 10, what is the measure of each side?

14. If you have a 30-60-90 triangle whose longest leg is 8, what are the measures of the shorter leg and the hypotenuse?

15. Use your knowledge of the Unit Circle to answer the following questions:

a. Practice filling in the Unit Circle from memory:

b. $sin\frac{3\pi}{4}$

c. $cos\frac{7\pi}{6}$

d. $tan\frac{\pi}{2}$

e. $sec\frac{11\pi}{6}$

f. $csc\frac{2\pi}{3}$

g. $cot\frac{4\pi}{3}$

h. $cos^{-1}\left(-\frac{1}{2}\right)$

i. $tan^{-1}(1)$

j. $7cos30 - 8tan135$

k. $\frac{2cos\frac{5\pi}{4}}{3csc\pi}$

Fill in The Unit Circle

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