1) Convert to radians
a) $120^\circ$ 

b) $270^\circ$ 

c) $135^\circ$

For #2-13, find the exact value of each trig function.

2) \[ \sin \frac{\pi}{6} \]

3) \[ \sin \frac{3\pi}{2} \]

4) \[ \sin \frac{\pi}{4} \]

5) \[ \cos \frac{5\pi}{6} \]

6) \[ \tan \frac{7\pi}{6} \]

7) \[ \cos \frac{\pi}{6} \]

8) \[ \tan \frac{4\pi}{3} \]

9) \[ \sin \frac{2\pi}{3} \]

10) \[ \tan \frac{5\pi}{3} \]

11) \[ \sin \frac{3\pi}{4} \]

12) \[ \cos \frac{9\pi}{2} \]

13) \[ \tan \frac{\pi}{2} \]

14) You are standing on a cliff that is 400 feet tall. You throw your math book off the cliff. The book lands 300 feet from the base of the cliff. How far is the book now from you?

15) From the top of a tower, the angle of depression to a flower is $74^\circ$. The top of the tower is 90 feet above the ground. How far is the flower from the foot of the tower?