Linguini Trig. Homework Name:_____

After you have finished constructing the Linguini sine and cosine curve, answer the following questions to help clarify the patterns seen and concepts learned during the construction.

1. What is the radius of the circle?_____
2. What is the circumference of the circle?_____
3. Where would a triangle corresponding to 375° be constructed:_____
4. What is the period of the sine curve? That is, what is the wavelength – after how far does the graph start to repeat?_____
5. What is the period of the cosine curve? That is, what is the wavelength – after how far does the graph start to repeat?_____
6. Compared with the radius, what is the height of the triangle at $\frac{5\pi}{6}$, $\frac{11\pi}{6}, and\ \frac{19\pi}{6}$?_____
7. Compared with the radius, what is the height of the triangle at $\frac{\pi}{4}$, $\frac{3\pi}{4}, and\ \frac{5\pi}{6}$?_____
8. Compared with the radius, what is the length of the x side of the triangle at $\frac{5\pi}{6}$, $\frac{11\pi}{6}, and\ \frac{19\pi}{6}$?_____
9. Compared with the radius, what is the length of the x side of the triangle at $\frac{\pi}{4}$, $\frac{3\pi}{4}, and\ \frac{5\pi}{6}$?_____
10. If you build triangles only at the 15 degree, 30 degree, 45 degree, and so forth, marks, what is the smallest number of different triangles that you need to form to obtain the lengths needed to construct the graph of one period of the sine urve?_____

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11. Write a one-paragraph explanation to a classmate about why $\sin\frac{\pi}{6}$ equals $\sin\frac{5\pi}{6}$_____

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