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## SHOW ALL YOUR WORK FOR EACH PROBLEM TO GET FULL CREDIT. PLEASE BE NEAT.

**<u>Direction:</u>** Read through sections 6.3 and 6.4 in your book and answer the following questions.

1. a. Write the *double angle formulas* for sine and cosine functions. (Section 6.3)

- b. Give an example to show why  $\sin(2\theta) = 2\sin(\theta)$  is not true.
- 2. Derive the identity  $\cos(2\theta) = 2\cos^2(\theta) 1$  from  $\cos(2\theta) = \cos^2(\theta) \sin^2(\theta)$  by using Pythagorean Identity.(Section 6.3)
- 3. Use the figure to find the exact value of the trigonometric function  $\cos 2\theta$  . (Section 6.3)

