Name _____ Trigonometry, Test 1, 2/5/2015

Please show your work, circle your answer, and round all decimals to two decimal places.

1) What is the degree measure of the smallest positive angle that is coterminal with 500^o? (6 points)

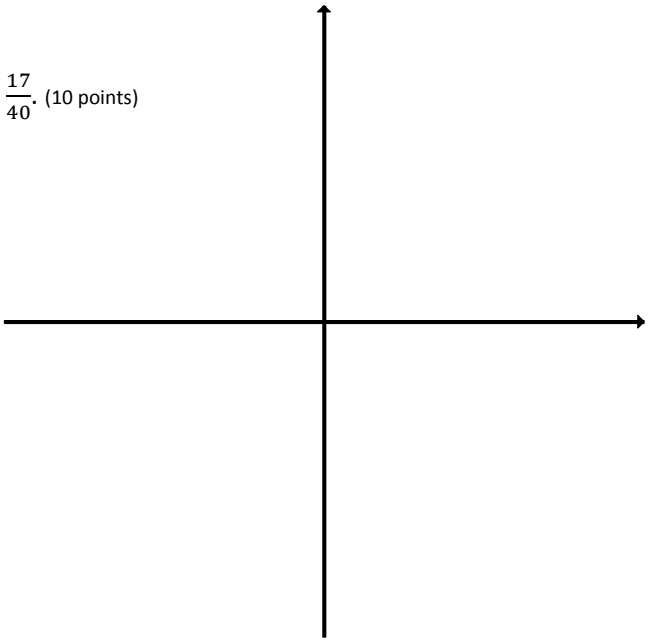
2) A wagon wheel has 17 spokes. What is the measure of the angle between the spokes? (6 points)

3) Find $\cos(42^o)$ (6 points)

4) A lawn cart has 12 inch diameter wheels and is moving at 2 revolutions per second. How fast is the cart moving? (6 points)

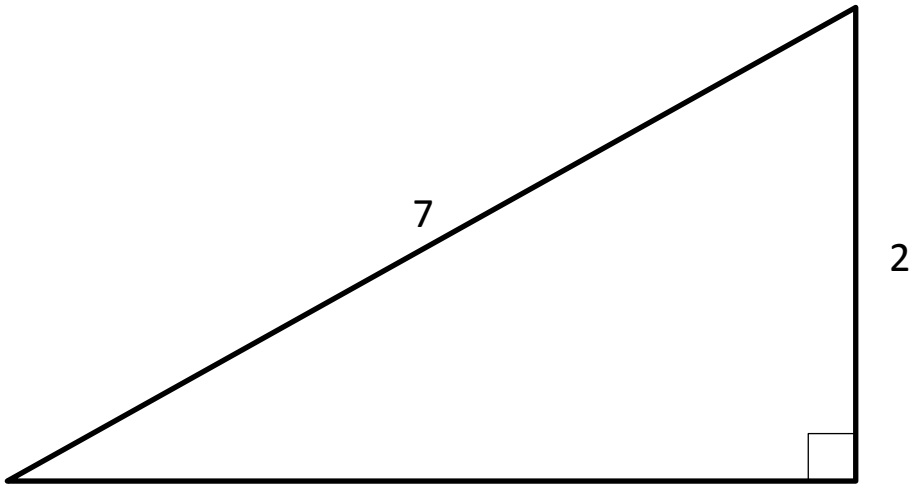
5) Solve $\sin(\theta) = \frac{1}{2}$ for θ. (6 points)

6) On the axis provided, illustrate the fact that $\sin(155^o) \approx \frac{17}{40}$. (10 points)



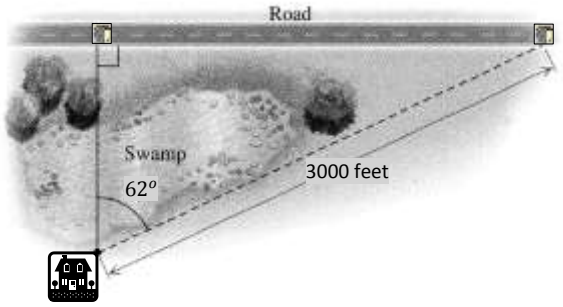
7) Use your above illustration to find $\tan(115^o)$ (10 points)

8) Find all the missing side lengths and angles in the triangle below. (10 points)



9) A cable company needs to lay new wire to connect a house to one of two junction boxes. As illustrated below, one junction box is 3000 feet away over land. The other junction box is directly on the other side of a swamp.

(a) How far is the house to the other junction box? (20 points)



(b) Assume it costs $10 per foot to lay cable across land and $30 per foot to lay cable through swamp. If the company decides to go across land to the junction box that is further away, how much money will they save or lose? (20 points)

(This page intentionally left blank. Work here will not be counted unless explicitly referenced earlier)