

Minitest 4C - MTH 1210

Dr. Graham-Squire, Fall 2013

Name: _____

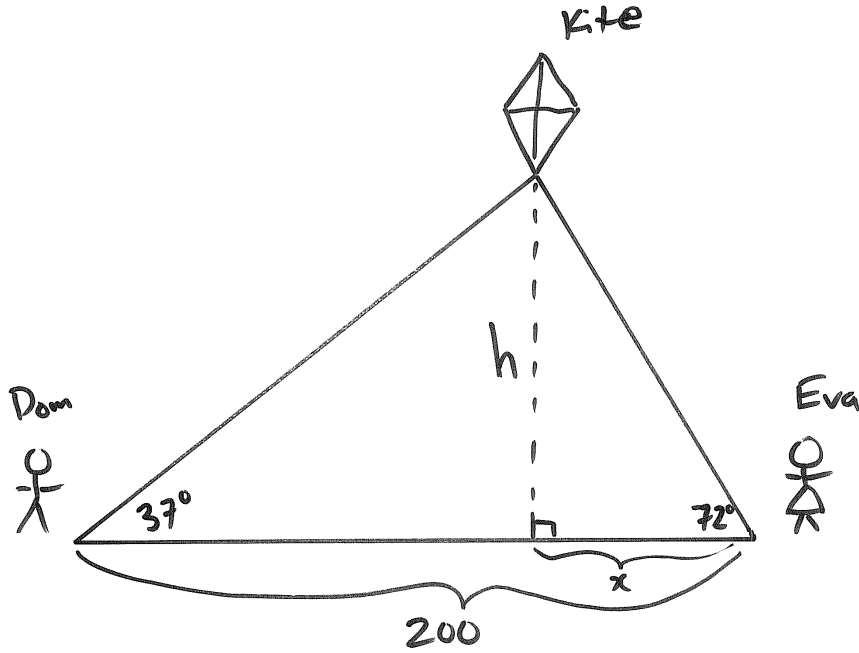
I pledge that I have neither given nor received any unauthorized assistance on this exam.

(signature)

DIRECTIONS

1. Don't panic.
2. Show all of your work and use correct notation! A correct answer with insufficient work or incorrect notation will lose points.
3. Clearly indicate your answer by putting a box around it.
4. Cell phones and computers are not allowed on this test. Calculators are allowed on the first 2 questions of the test, however you should still show all of your work. No calculators are allowed on the last 4 questions.
5. Give all answers in exact form, not decimal form (that is, put π instead of 3.1415, $\sqrt{2}$ instead of 1.414, etc) unless otherwise stated.
6. If you need it, the quadratic formula is $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$.
7. Make sure you sign the pledge.
8. Number of questions = 6. Total Points = 40.

1. (7 points) Dominic is flying a kite, and he measures the angle of elevation to the kite to be 37° . His sister Eva is on the other side of the kite, 200 feet away from Dominic, and she measures the angle of elevation to the kite to be 72° . How high is the kite flying? Use right-angle trigonometry to find the solution, and round your answer to the nearest foot.



2. (5 points) An arc of length 18 cm on a circle subtends a 75° angle. What is the radius of the circle? Round your answer to the nearest 0.01 cm.

3. (10 points) Find the exact value of the following. If an expression does not exist, write DNE and explain why.

(a) $\sin^{-1}\left(\frac{\sqrt{2}}{2}\right)$

(b) $\cos^{-1}(0)$

(c) $\tan^{-1}\left(\frac{-1}{\sqrt{3}}\right)$

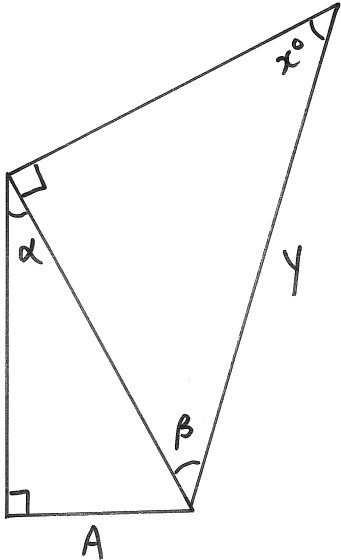
(d) $\sin(\sin^{-1}(-2))$

(e) $\tan^{-1}\left(\tan\frac{5\pi}{4}\right)$

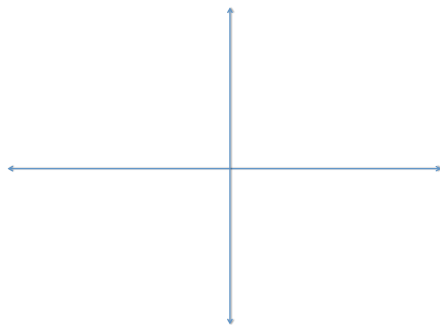
4. (5 points) Write $\tan \theta$ in terms of $\cos \theta$, assuming θ is in quadrant four.

5. (6 points) Find the exact value of $\cos(\sin^{-1}(\frac{3}{5}))$.

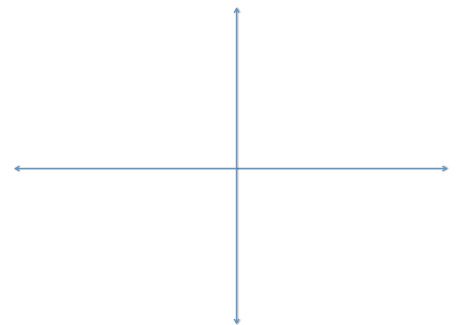
6. (7 points) Solve for x and y in the given diagram. Use trigonometric functions/ratios to explain your calculations and/or show your work. Leave your answer in exact form, since you cannot use a calculator. Let $\alpha = 30^\circ$, $\beta = 45^\circ$, and $A = 6$.



Extra Credit(1 point) Sketch the graph of the inverse sine function, $y = \sin^{-1}(x)$.



Rough:



Answer: