

Math120U, Quiz 5, 5/19/2004

Name \_\_\_\_\_ Student number \_\_\_\_\_

No notes allowed though you may use a non-graphical calculator. 15 minutes for the quiz.

1. Given  $y = f(x) = 15 \sin\left(\frac{\pi}{4}x - \pi\right) + 7$  on its natural domain.

(a) Rewrite the function above into a standard sinusoidal function  $A \sin\left(\frac{2\pi}{B}(x - C)\right) + D$ . [6 pts]

(b) Sketch the graph of this sinusoidal function. You should show the graph for at least one complete period and don't forget to mark all the necessary values on the graph. [6 pts]

2. [8 pts] Given a right triangle below, please find the angle  $\alpha$  (in the radian system) in terms of: (a) the inverse sine function, (b) the inverse cosine function, (c) the inverse tangent function. Just leave your answers in the exact form. You could use either the notation like  $\sin^{-1}$  or  $\arcsin$ .

