

Quiz Four

		Truman	Kelly	Hui
Section	12:30	AB	AD	
(circle one)	1:30	AA	AC	AE

No notes. No calculators.

Simplify your answers. Show your work. Please put a box around YOUR FINAL ANSWER.

There are 15 points on this quiz.

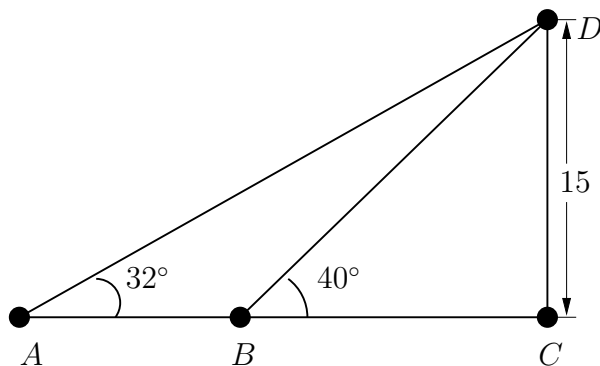
1 (2 points) For each of the following, give the *exact* numerical value.

(a) $\sin(30^\circ)$

(b) $\cos(\pi/3)$

For the remaining problems on this quiz, you may leave your answers in terms of various trigonometric functions ($\sin(\)$ or $\cos(\)$, for example).

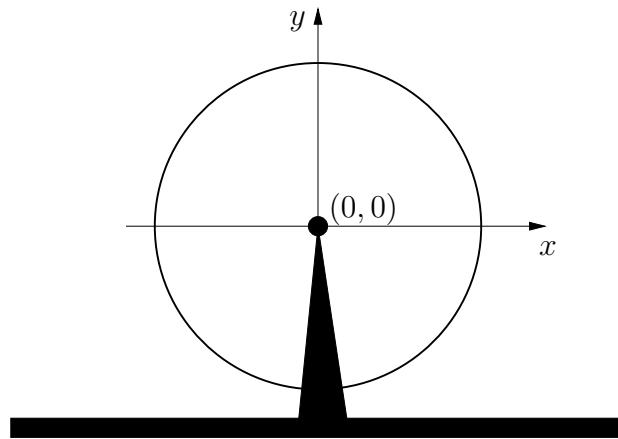
For problems 2 and 3, consider the following picture.



2 (3 points) Find the length of the line segment from B to D .

3 (3 points) Find the length of the line segment from A to B .

Kelly, Hui, and Truman are riding the ferris wheel at the fair. This wheel has radius 75 feet and takes 2 minutes to go through a full revolution.



4 (3 points) Find the angular speed ω of the ferris wheel in radians per minute.

5 (4 points) Suppose the three TAs (Kelly, Hui, and Truman) are at the lowest point of the ride (on the y -axis shown, below the x -axis) when the wheel starts turning. The wheel turns counter-clockwise. Find the coordinates of the TAs after t minutes, in terms of the coordinate system drawn on the picture. (The center of the wheel is at the origin.)