UNIVERSITY OF LINCOLN

Department of Computing & Informatics
Assessment Package Briefing Document

DOCUMENT STATUS : Subject to Moderation by External Examiners

Title: CMP1627 Introductory Games Studies Assignment 2	**Indicative Weighting: 25%**

Learning Outcomes:

On successful completion of this assessment package a student will have demonstrated competence in the following areas:

[LO4] recognize basic mathematical principles relating to computer game development.

Introduction

This assignment covers some of the mathematical principles which you have investigated during Semester B of Introductory Games Studies. You should answer ALL of the questions on the accompanying sheet and be sure to include all of your working out and notes to enable the markers to assign the most appropriate marks.

Submission Guidelines

Write your answers **clearly**, include **all** working out and notes.

Hand In Instructions

Hand in your answers with the appropriate completed cover sheet by Thursday 29th March, 2007 (week 10)

DO NOT include this briefing document with your submission.

CMP1627 Introductory Games Studies

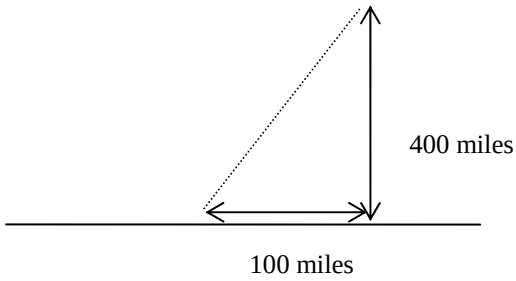
Assignment 2:

Answer ALL questions.

1. Describe how to find the intersection of two straight lines. **[10]**

2. Explain how you use trigonometry functions to find the angles and lengths of sides in right angled triangles. **[10]**

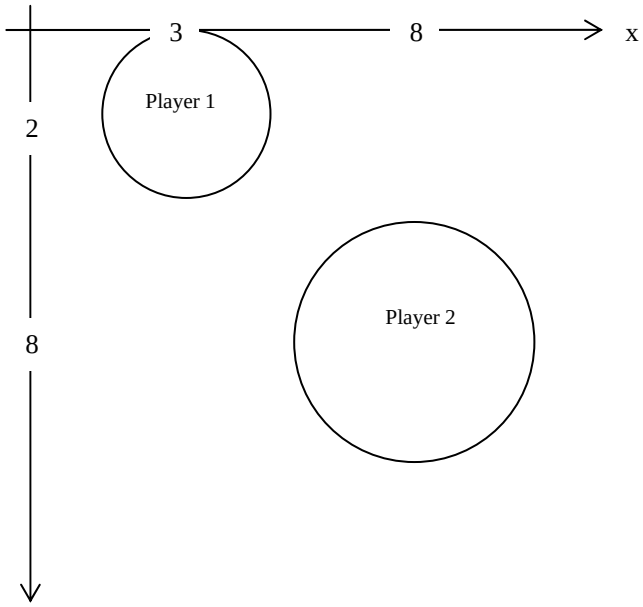
3 In a game, your character shoots a laser weapon at a target which is in a stationary orbit above the planet. He is positioned 100 miles away (horizontally) from the target which is 400 miles above the surface.



b. What angle should he aim at if the laser will follow a straight line path? **(5)**
c. If the maximum distance the laser can travel is 500 miles, how far back from his current position can your player move to fire the weapon and still hit the target? **(5)**

[10]

4. A 2D computer game consists of two characters moving around on a flat plane. Player 1 is positioned at (3,2) and has a 'collision area radius' of 2 units. Player 2 is positioned at (8,8) and has a collision area radius of 3 units.



Player 1 is asked to move in a straight line to the point (10,5).

a) What is the equation of the line along which Player 1 moves? **(5)**
b) What is the separation of the two players before Player 1 moves? **(5)**
c) At the point when the two collision area circles touch, what is the players separation? **(2)**
d) What are the coordinates of player 1 at this point? **(8)**

[20]

[Total: 50 Marks]