

Math 12 Independent Study

Coordinate Geometry – *Section 4.2*

Mathematical Modeling, Book 3

Math 12 Curriculum Outcomes:

- E5** apply inductive reasoning to make conjectures in geometric situations
- D1** develop and apply formulas for distance and midpoint
- E7** investigate and make and prove conjectures associated with chord properties of circles
- E11** write proofs using various axiomatic systems and assess the validity of deductive arguments
- E4** apply properties of circles

<i>Assignment</i>	<i>Marks</i>
1. Understand the <i>language</i> Check your understanding of words in the word list using the sites or a math dictionary.	
2. Investigate <i>slope, distance and midpoint</i> Be sure you understand how each formula is developed and used. Correct form is important in the presentation of solutions.	
3. Practice using formulas Using the handout provided, complete: Page 222 (1 and 3) Page 226 (10, 11, 12, 13 and 14) Page 230 (29 and 30) Check your answers (textbook, page 372) Online & Text Support for Study Summary of Formulas Quadrilaterals Due: Wednesday, April 27, 2011	
4. Complete the booklet (all questions complete, stapled together with a cover page (your name, course, date and your teacher's name).	10
5. Four (4) questions (teacher's choice) marked for mathematical content and presentation.	40
Total	50

To be submitted by: **Wednesday, April 27, 2011**

The Independent Study will count as **10%** of your final course work mark. The Independent Study will be followed by a **Quiz** based on this project, which will be one of your quizzes for this semester.

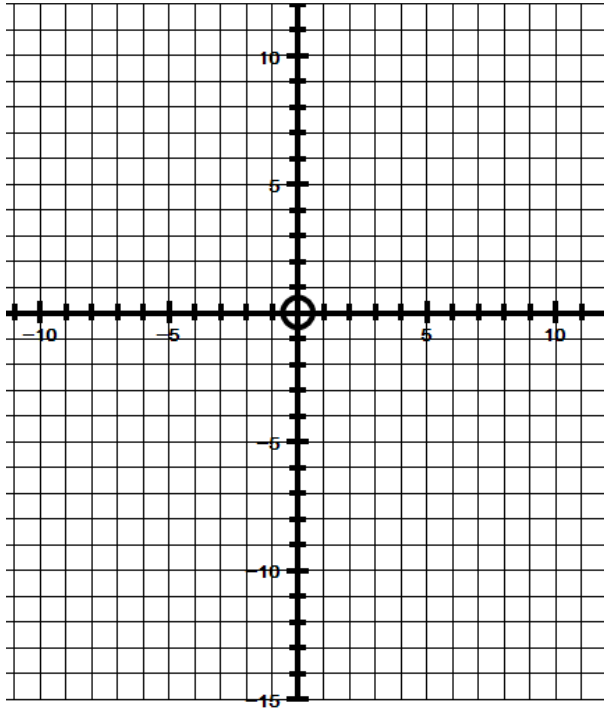
Complete the booklet (all questions complete, stapled together with a cover page (your name, course, date and your teacher's name).

10

40

Page 222 (1)

10



Draw and label the diagram.

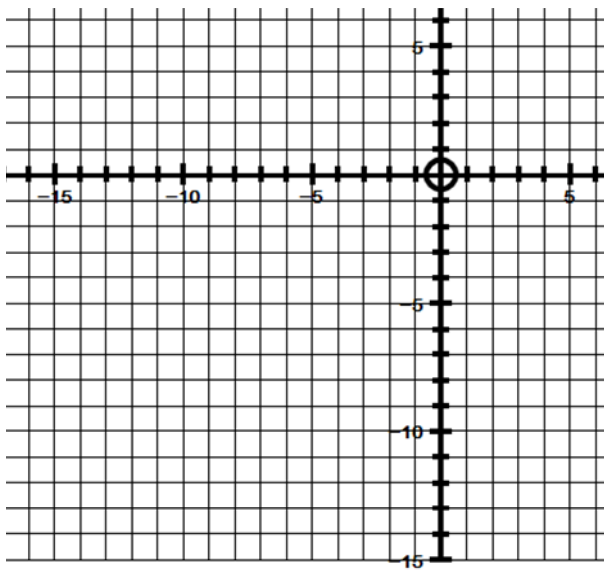
Calculations:

Are opposite sides **parallel**? Explain based on your calculations.

Are opposite sides **perpendicular**? Explain based on your calculations.

Page 222 (3)

10



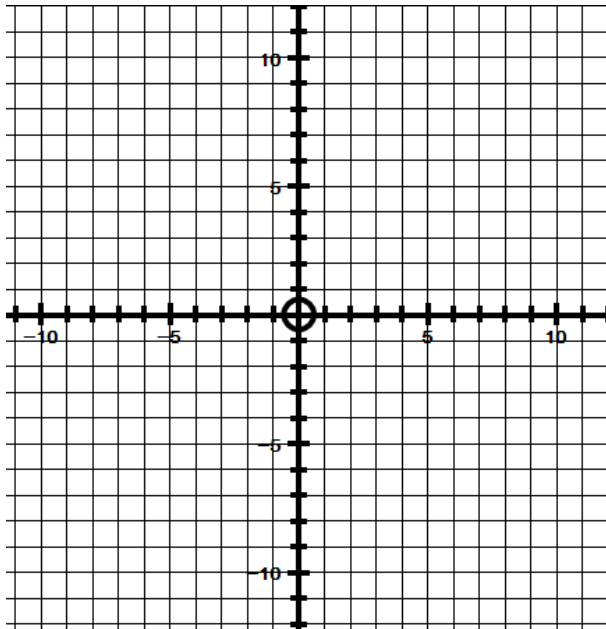
a) Draw and label a sketch of the garden.

Calculations:

b)

c)

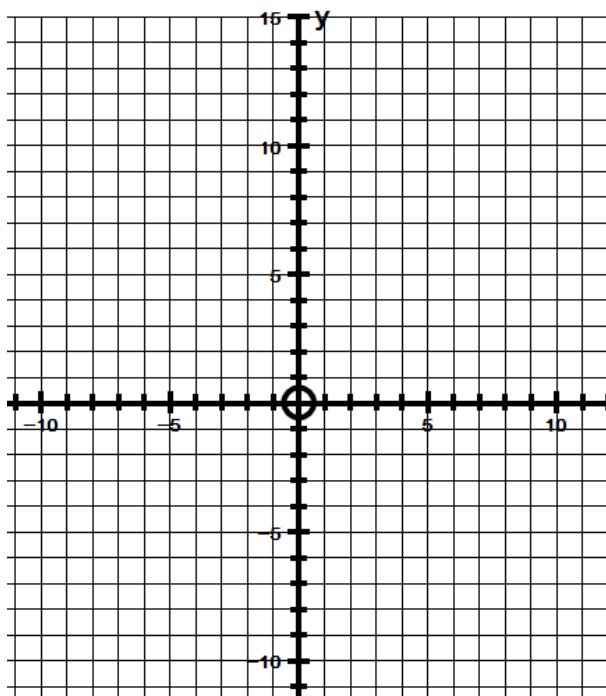
d)



Draw and label the sketch of the gym floor.

a) Calculations :

b)

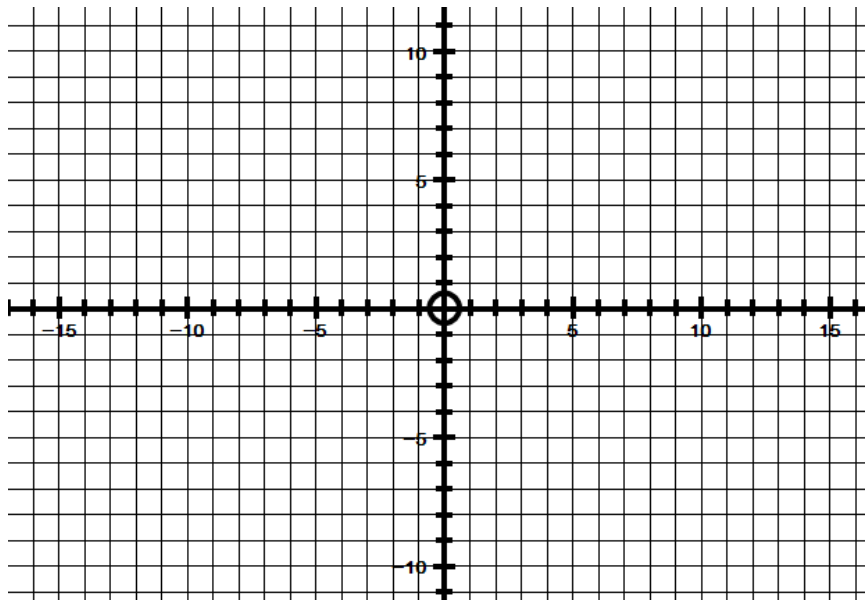


Draw and label the sketch of the oval stage.

Calculations:

What is the length of each axis?

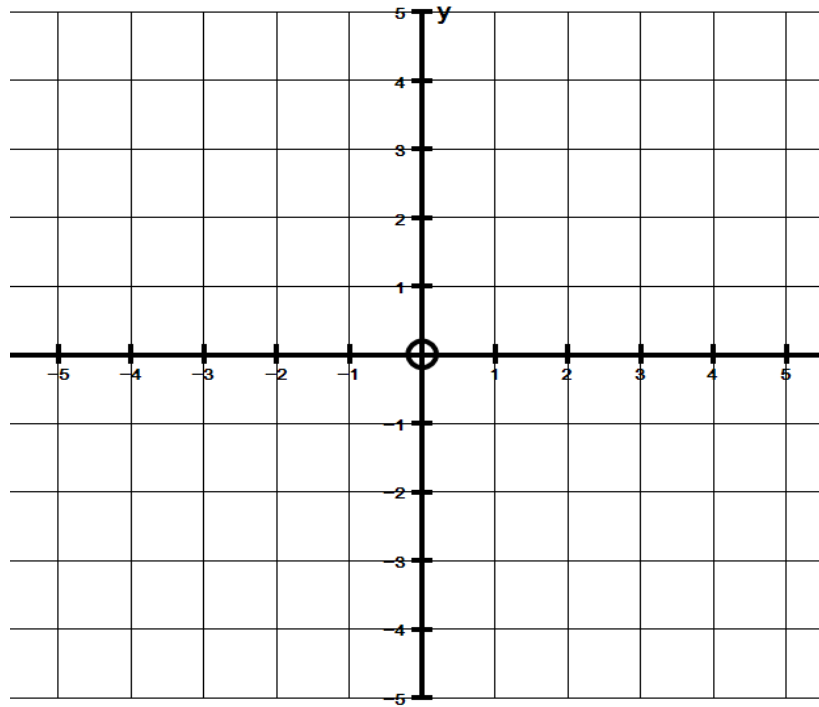
10



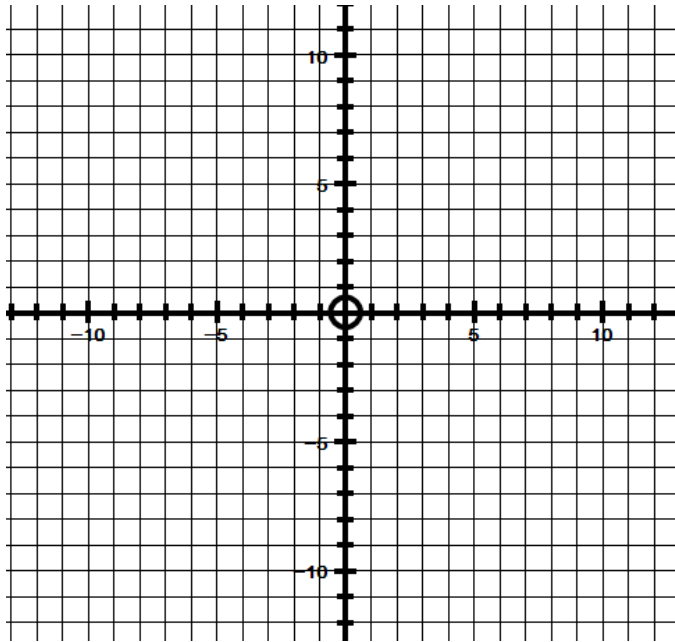
12. Calculations:

13. Calculations:

14. Calculations:



a) Graph the circle on the grid provided.	
b) Calculations:	
c) Midpoint	Slope
d) Algebraically	Indicate on graph.
Conclusion:	



a) Draw and label the graph the circle.

b) Calculations:

c) Draw the chord AB on the graph.

d) Calculations:

Conclusion: