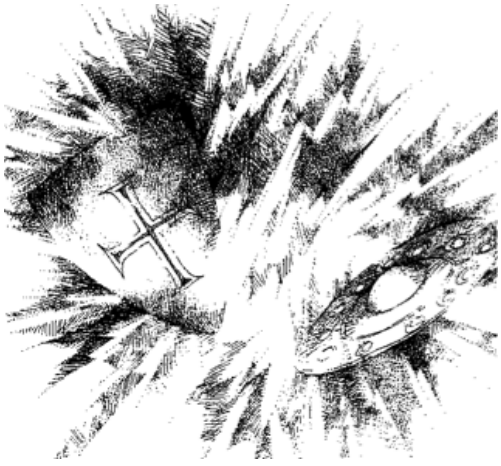
In Search of the Holy Grail

A Mathematical Project for Students

Barbara Healy BSc BEd



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My name is _____

- **I commenced my search for the Holy Grail**

at (time)_____

on (day) _____

date _____

- **I found the Holy Grail**

at (time)_____

on (day) _____

date _____

- **The time taken on my journey to find the Holy Grail was**

_____

A NOTE TO TEACHERS AND PARENTS.

- It has been found that this activity occupies a year 8 student for approximately one week including class time and homework.

INSTRUCTIONS TO STUDENTS.

- The purpose of this unit of work, based on the theme “In search of the Holy Grail”, is to help you to revise your mathematics in the context of a problem solving activity.

- Diagrams in this book are not drawn to scale. Use the measurements on each of the diagrams in your calculations.

- When you have found the answers to the clues, put the points on the graph sheet at the back of the book. When you join these points in the order given towards the end of the booklet you will find the Holy Grail.

- Use pencil for all graph work and number the points on your graph paper with the number of the clue.

You are to join Sir Galahad, Sir Lancelot, Sir Bors, Sir Percival and Sir Arthur as they set out to find the Holy Grail. They leave from Camelot where they farewell the beautiful Lady Gweneveir. The City of Camelot, from where they depart, can be located by the co-ordinates (0 , 0). Follow the clues, mapping the points on your graph page and see if you can find the Holy Grail.

As you mark each point on your graph, put the number of the clue beside the point.

CLUE 1.
Starting at (0 , 0) move 2 units up the *y* axis. Write the co-ordinates of the point you have found in the space below. Now mark this point on the graph paper at the back of this booklet and label it 1.

CLUE 1

Use the graph paper below to work out your answer to Clue 2.

CLUE 2.
Using pencil, draw the line $y = -2$ on your graph. Reflect your answer to Clue 1 in the mirror placed along the line $y = -2$. Write the co-ordinates of the point you have found in the space below.
Now mark this point on the graph paper at the back of this booklet and label it 2.

CLUE 2

Use the graph paper below to work out your answer to Clue 3.

CLUE 3.

Complete the following tables for

(a) $y = x - 5$

x	-3	-2	-1	0	1	2	3
y							

(b) $y = -2x - 2$

x	-3	-2	-1	0	1	2	3
y							

- Plot both of these lines on the graph paper below.
- Find the co-ordinates of the point where these lines cross.
- Write the co-ordinates of the point you have found in the space below.
- Now mark this point on the graph paper at the back of this booklet and label it 3.

CLUE 3

CLUE 4.

For the line $y = 4x - 6$ state the gradient of the line and the y intercept.

(a) gradient = ...

(b) y intercept = ...

- Your answers to (a) and (b) form the co-ordinates (a , b).
- Write the co-ordinates of the point you have found in the space below.

CLUE 4

- Plot this point on your graph

CLUE 5.

For the line $x + 2y = 13$ find the y value when $x = 1$

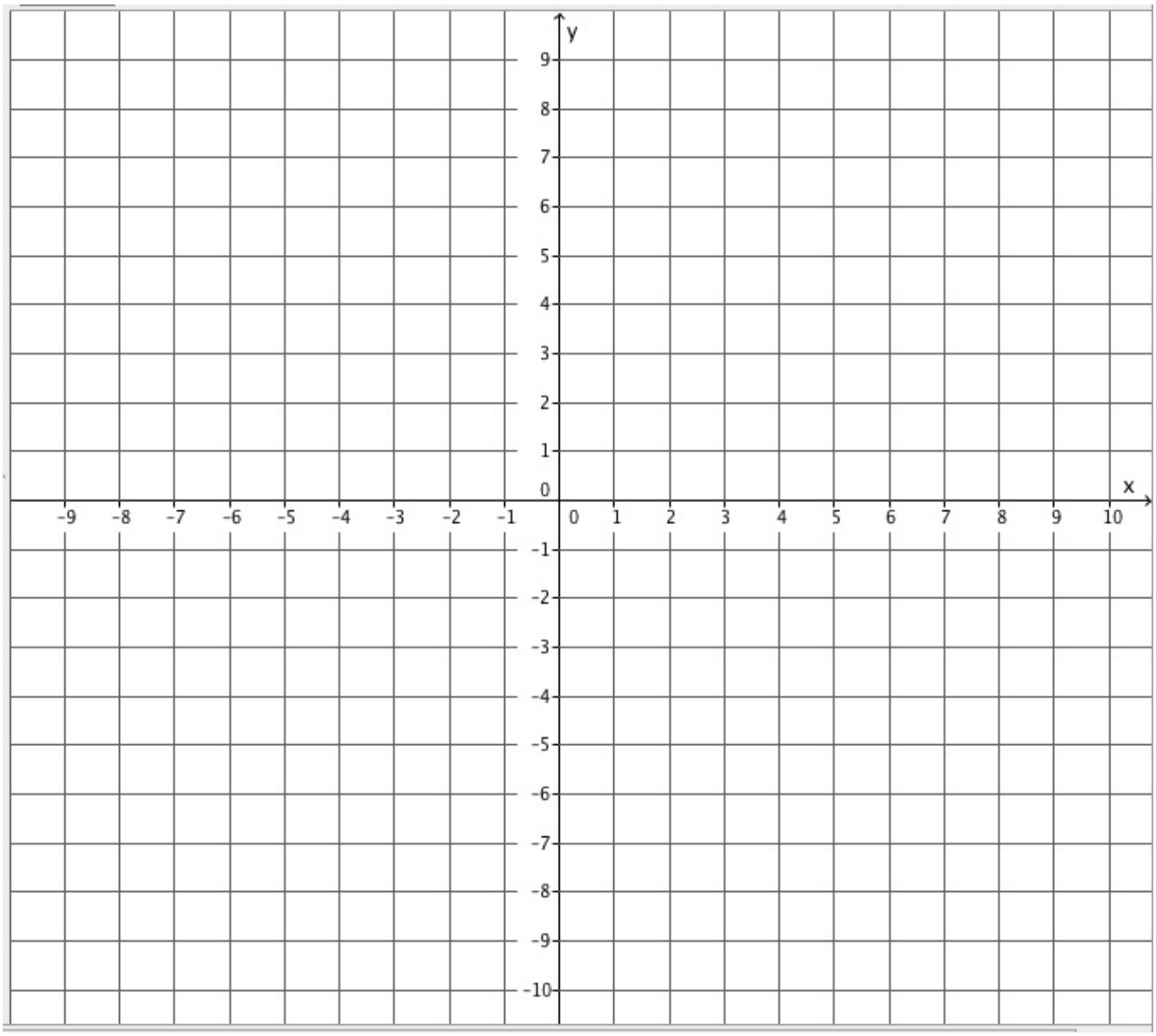
Write this co-ordinate in the space below

CLUE 5

(1 ,)

- Plot this point on your graph.

You can now return with the Holy Grail to Camelot and live happily ever after!



Plot all your points on this graph.

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