

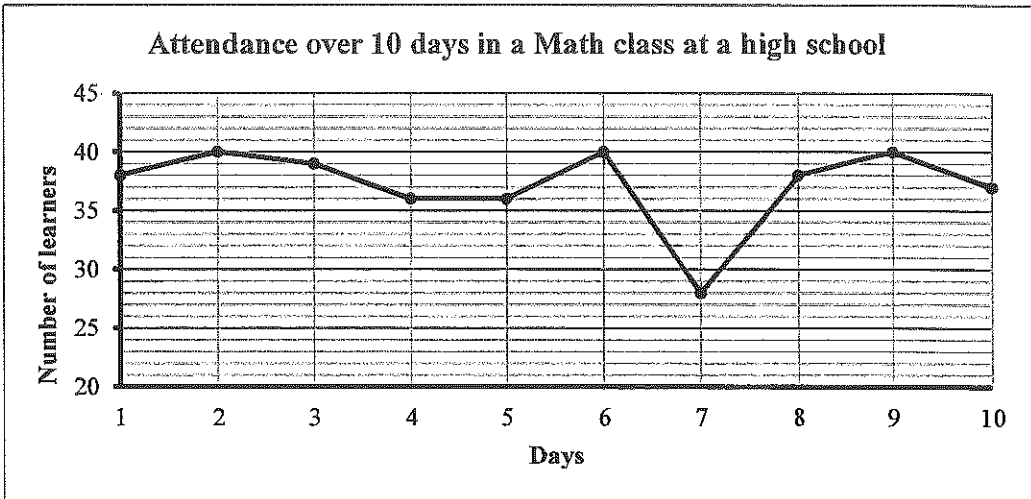
**WYNBERG BOYS' HIGH SCHOOL**  
**GRADE 8 MATHEMATICS**  
**STANDARDISED TEST**  
**CARTESIAN PLANE, GRAPHS AND**  
**TRANSFORMATION GEOMETRY**

6 November 2015  
 30 minutes  
 25 marks

Name: Memo Class: \_\_\_\_\_ MATHS TEACHER: BG BO ED HU

- GENERAL INSTRUCTIONS**
- Write your name in the space provided above.
  - This question paper consists of 4 questions. Please check that your question paper is complete.
  - Attempt all questions. *Write your answers in the spaces provided on this question paper.*

**QUESTION 1** [7]  
 The graph below shows the attendance of learners in a Gr 8 Mathematics class at a high school. Use the graph to answer the questions that follow.



1.1 Complete the following table to show the learner attendance on certain days. No learners were absent on days 2, 6 and 9. (4)

Day	3 ✓	5 ✓	8 ✓	10 ✓
Learners present	39	36	38	37

1.2 How many learners are in the Mathematics class?  
40 ✓ (1)

1.3 How many learners were absent on day 7?  
12 ✓ (1)

1.4 Do you think that the attendance of the Mathematics learners over the 10 days was good? Give a reason for your answer.  
No, there was only 3 days with full attendance. (anything similar) (1)

**QUESTION 2**

**[6]**

The diagram below shows a Cartesian plane. The following points have been plotted in this Cartesian plane.

A (2 ; 3)

B (0 ; -8)

C (-8 ; 5)

2.1 Which of the three given points (A, B or C) lies in quadrant 1 of the Cartesian plane?

A ✓  
..... (1)

2.2 Which of the three given points (A, B or C) lies in quadrant 2 of the Cartesian plane?

C ✓  
..... (1)

2.3 Which of the three given points (A, B or C) lies exactly eight units from the origin?

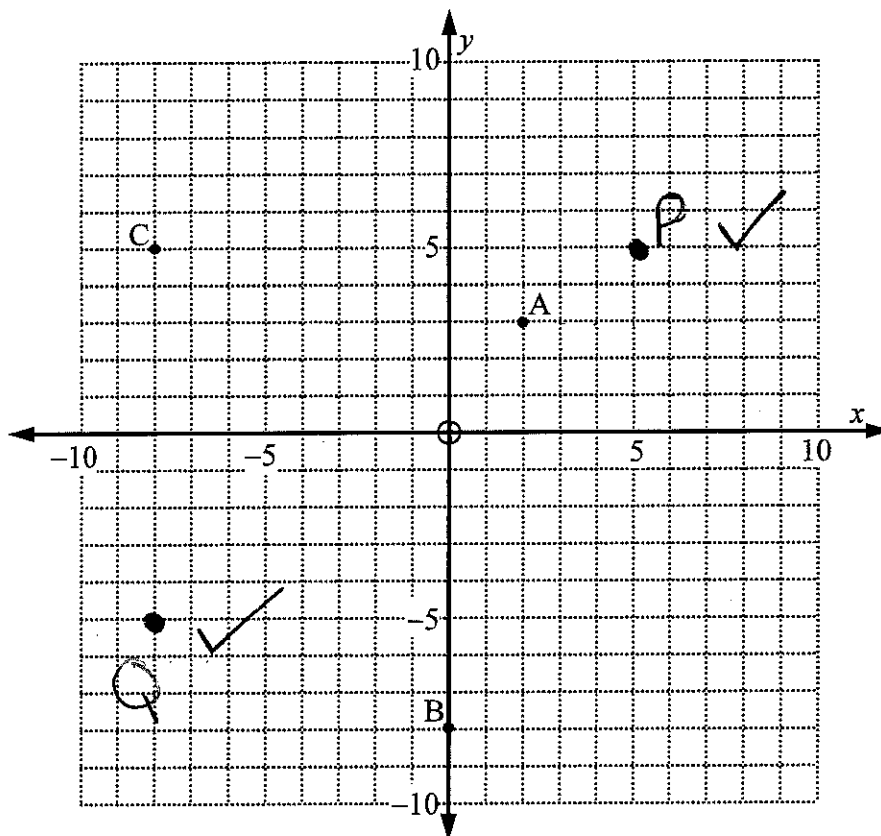
B ✓  
..... (1)

2.4 Which of the three given points (A, B or C) has a negative  $x$ -co-ordinate?

C ✓  
..... (1)

2.5 In the diagram below, plot and label point P, if it is the *image of A* under translation right 3 units and up 2 units. (1)

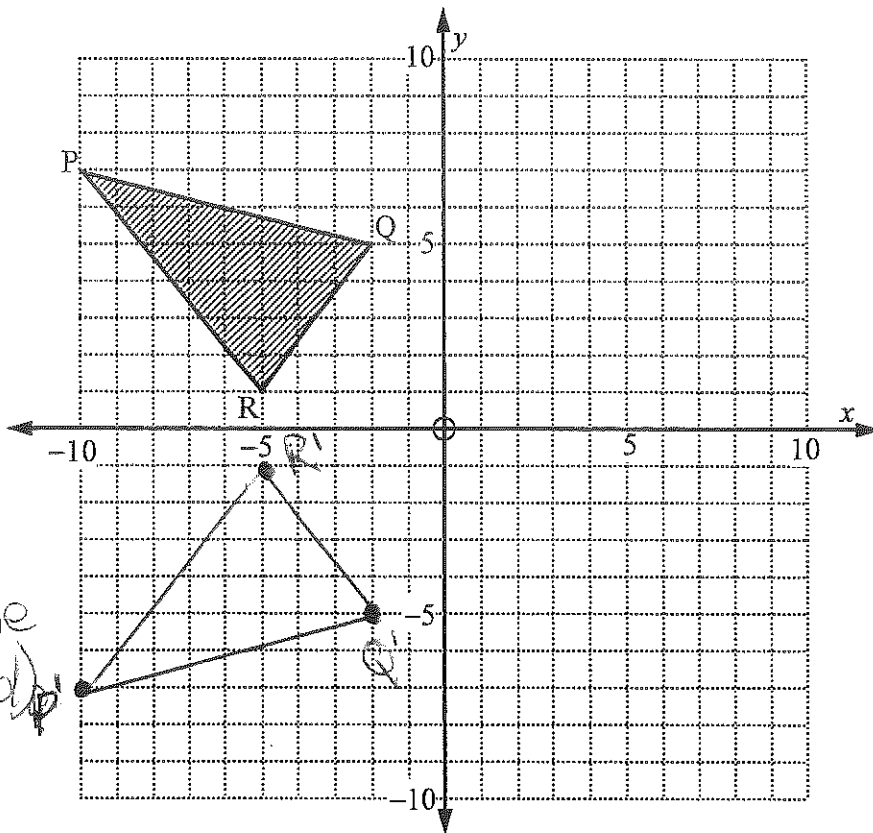
2.6 In the diagram below, plot and label point Q, if it is the *image of C* under reflection in the  $x$ -axis. (1)



QUESTION 3

[12]

The diagram below shows  $\triangle PQR$  drawn in a Cartesian plane. Refer to the diagram as you answer the questions which follow.



✓✓✓  
 (subtract one if not labelled)

3.1 Write down the co-ordinates of points P, Q and R, the vertices (corners) of  $\triangle PQR$ .

P(-10; 7) ✓ Q(-2; 5) ✓ R(-5; 1) ✓ (3)

3.2 Consider reflecting  $\triangle PQR$  in the x-axis to create the image  $\triangle P'Q'R'$ .

3.2.1 Draw  $\triangle P'Q'R'$  in the Cartesian plane above and label its vertices (corners). (3)

3.2.2 Write down the co-ordinates of P': P'(-10; -7) (2)

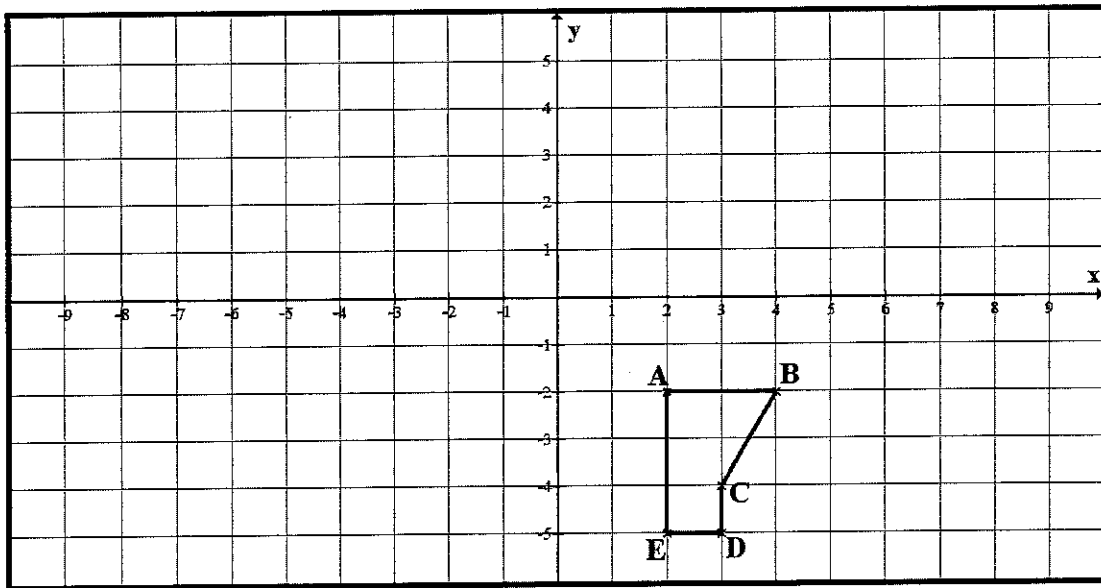
3.2.3 Write down the rule for this transformation:  $(x; y) \rightarrow (\dots x \dots; \dots -y \dots)$  (2)

3.3 Transform pentagon ABCDE as follows in the diagram below:

3.3.1 Write down the generalisation of this transformation if the following takes place: (2)

First reflect the pentagon in the  $y$  - axis,  
then reflect this new pentagon in the  $x$  - axis,  
then translate this latest pentagon 2 units down and 6 units right.

$$(x ; y) \rightarrow (-x + 6 ; -y - 2)$$



[25]

THE END