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

6 November 2015
30 minutes
25 marks

Name: _____**Class:** _____   **MATHS TEACHER: BG   BO   ED   HU**

GENERAL INSTRUCTIONS
1.   Write your name in the space provided above.
2.   This question paper consists of 4 questions. Please check that your question paper is complete.
3.   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.

Attendance over 10 days in a Math class at a high school
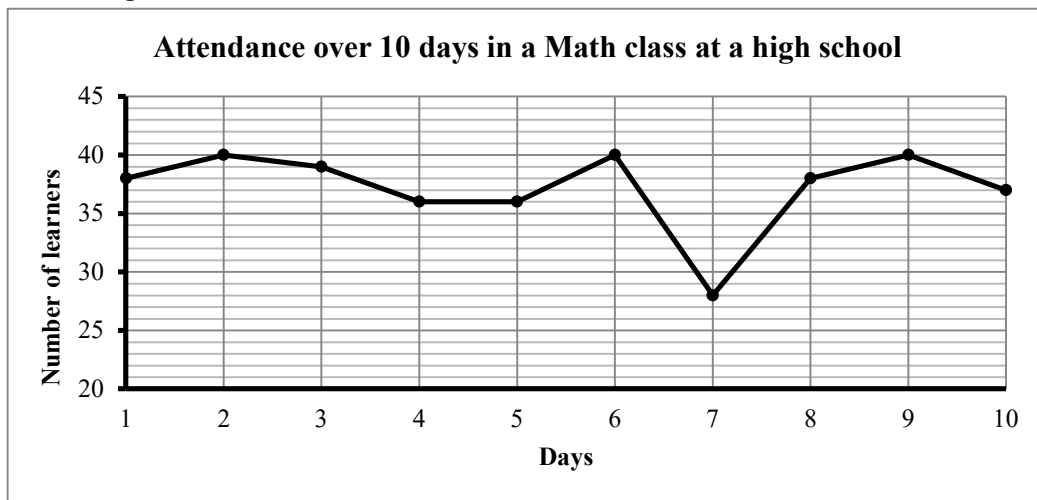
1.1   Complete the following table to show the learner attendance on certain days. No learners were absent on days 2, 6 and 9.   (4)

Day	3	5	8	10
Learners present				

1.2   How many learners are in the Mathematics class?

_____ (1)

1.3   How many learners were absent on day 7?

_____ (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.

_____ (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?

.... (1)

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

.... (1)

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

.... (1)

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

.... (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)
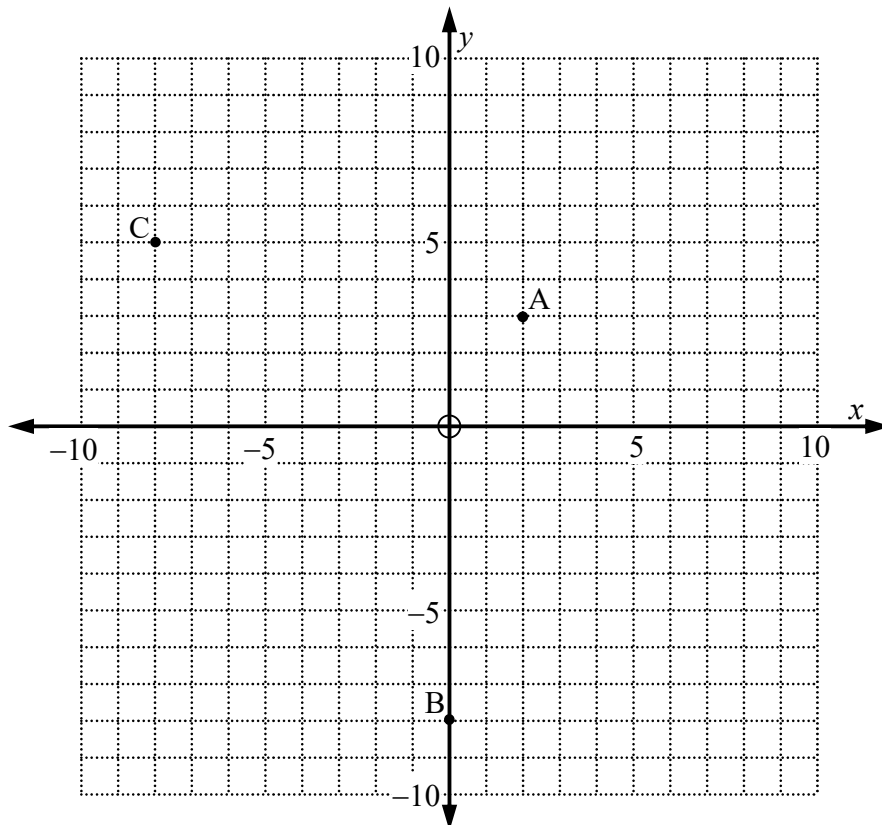
QUESTION 3 [12]

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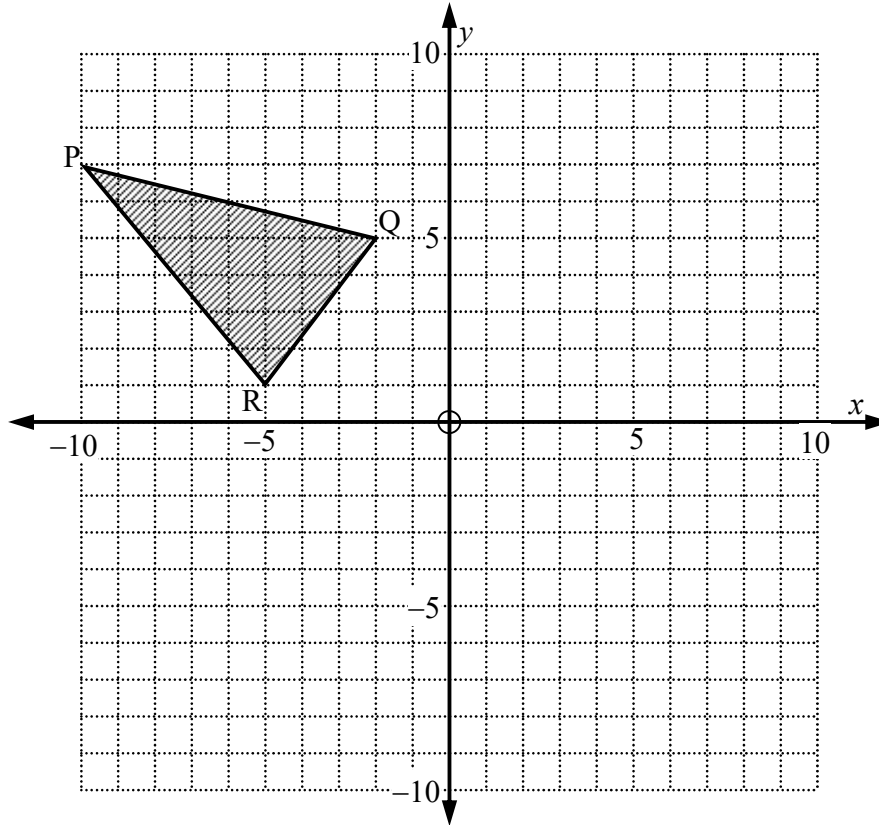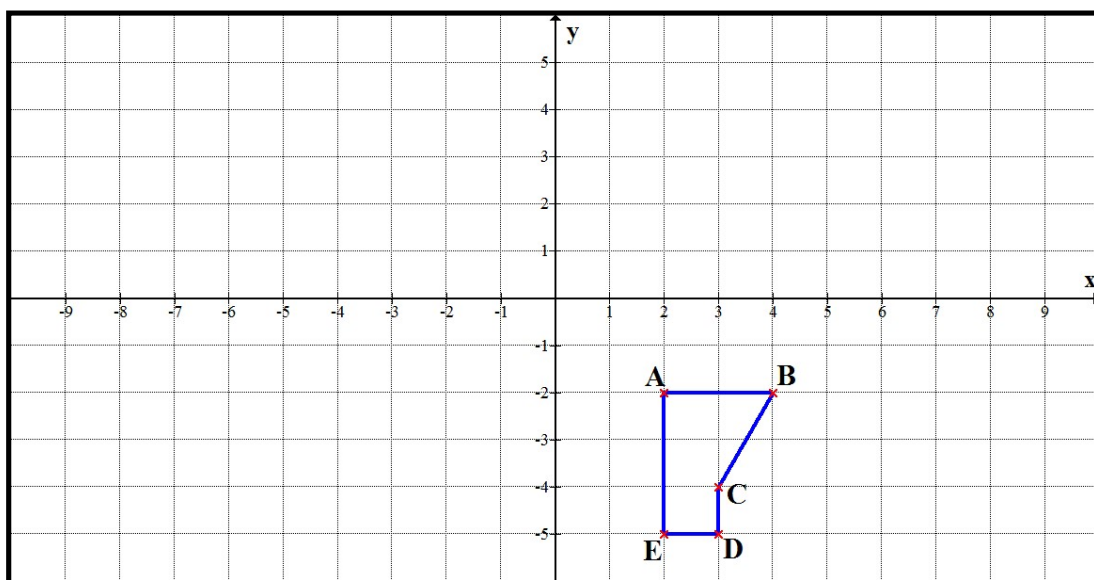

3.1   Write down the co-ordinates of points P, Q and R, the vertices (corners) of $\triangle PQR$.

P (.......... ; ....)   Q (.......... ; …........)   R (.......... ; ....)   (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'(.......... ; ....)   (2)

   3.2.3   Write down the rule for this transformation: $(x ; y) \rightarrow$ (... ....….... ; ... .…...)   (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.

$$(\quad x \quad ; \quad y \quad) \qquad \rightarrow \qquad (\qquad\qquad ; \qquad\qquad)$$

[25]

THE END