INSTRUCTIONS:

1. This paper consists of 6 questions.

2. Clearly show ALL calculations that have been used in determining the answers.

3. A calculator may NOT be used.

4. It is in your interest to write legibly and to present your work neatly and in ink.

5. Number the answers EXACTLY as the questions are numbered.

6. Diagrams are NOT necessarily drawn to scale.

7. Answer question 6 on the answer sheet provided. Staple this sheet to the front of your script.

QUESTION 1

1.1 Complete each of the following:

    1.1.1 The complement of 54° is ……. while its supplement is…….

    1.1.2 An obtuse angle measures between ……. and ………. degrees.

    1.1.3 Lines which are always the same distance apart are called ……..lines.

    1.1.4 A(n) ………… angle measures 200°   (5)

1.2 The underlined parts of the following statements are incorrect. Write the correct answer in each case. Correct only the underlined part. Refer to the diagram below.
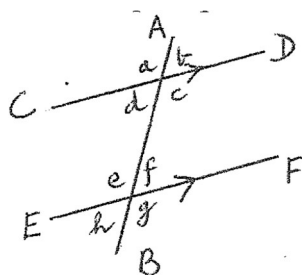
    1.2.1   d and f are <u>co-interior</u> angles.

    1.2.2   a and c are <u>adjacent supplementary</u> angles.

    1.2.3   d + e = <u>90°</u>

    1.2.4   a and e are called <u>alternate</u> angles.

    1.2.5   Adjacent angles share a common arm and <u>leg.</u>

    1.2.6   Line AB is called a <u>transparent.</u>

       (6)

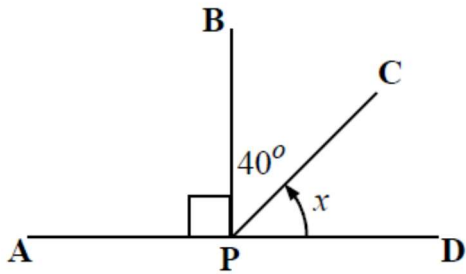1.3 Draw an example of <u>adjacent, complementary</u> angles.   (2)
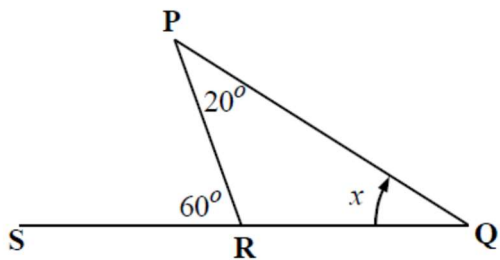
[13]

QUESTION 2

In this question you need to show all your working and you have to give all your reasons.

Determine the value of x in each of the following diagrams.

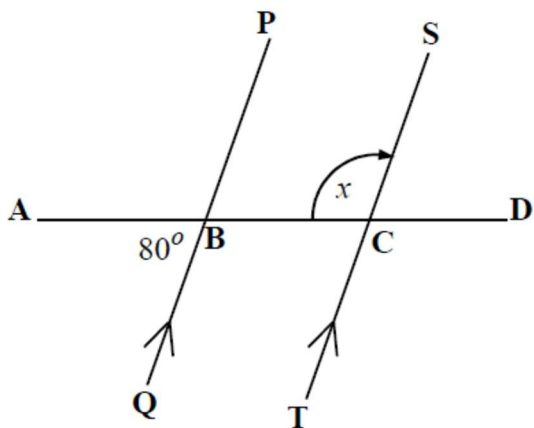2.1   (2)

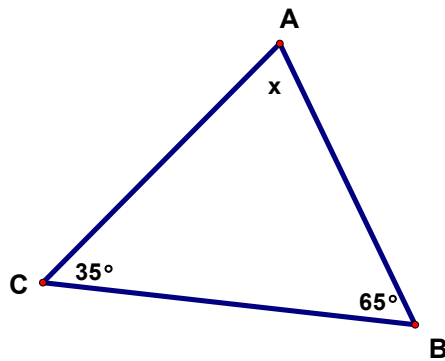2.2   (2)

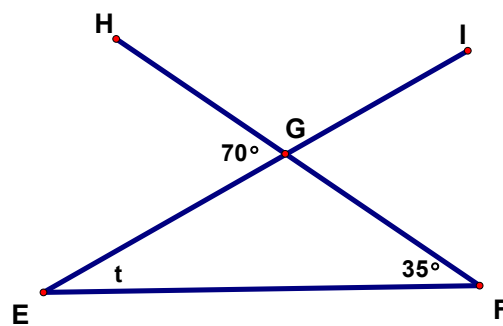

2.3   (4)

[8]

QUESTION 3:

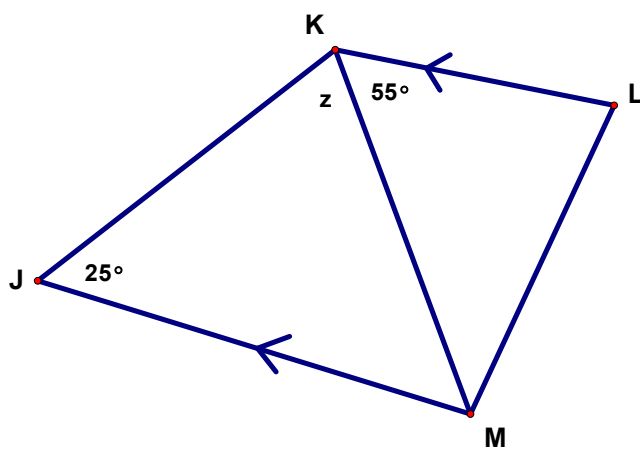Calculate the angles marked with small letters. Make sure that you give correct reasons.
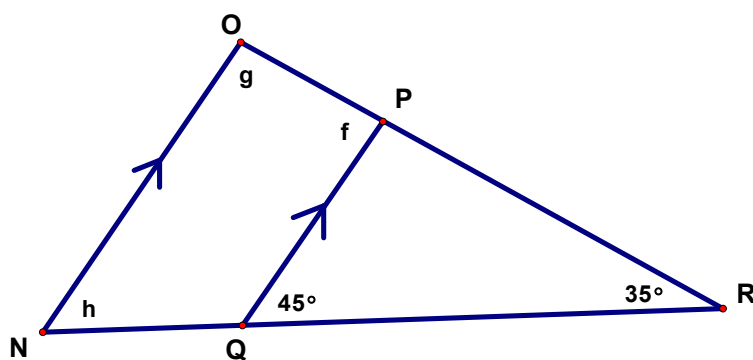
3.1 (2)

A

x

C 35°

65°

B

3.2 (2)

H

I

G

70°

t

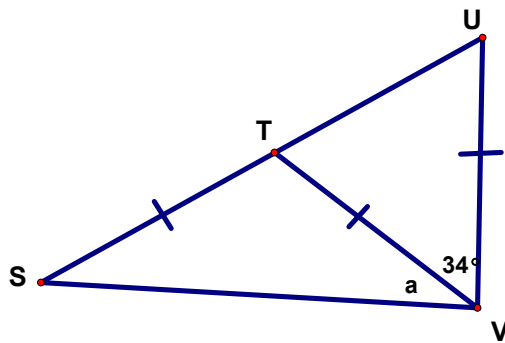35°

E

F

3.3 (2)

K

z 55°

L

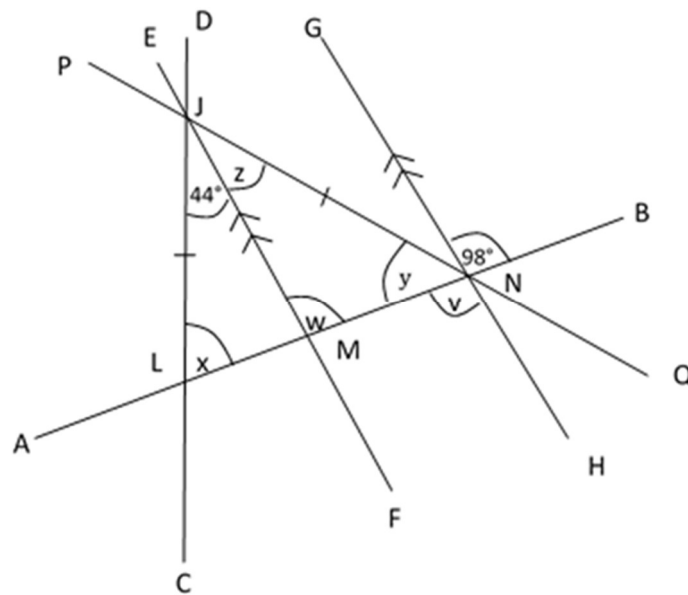J 25°

M

3.4 (6)

O

g

P

f

h

45°

35° R

N

Q

3.5 (6)

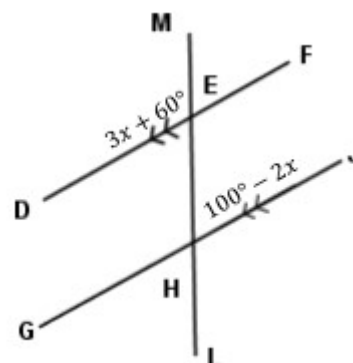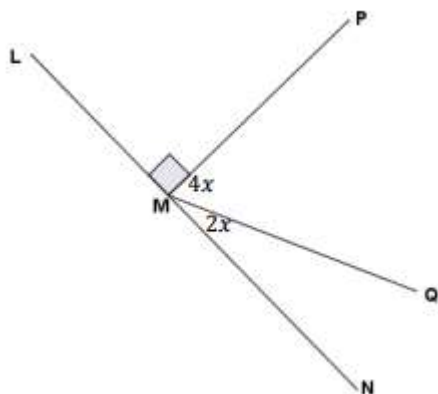3.6 (10)

[28]

QUESTION 4

Calculate the value of x in each of the following and state all reasons:
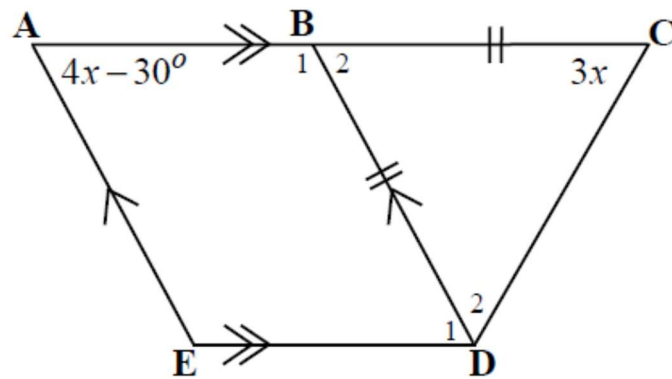
4.1 (4)   4.2 (6)
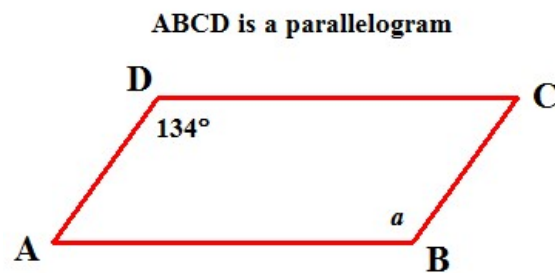
4.3 (7)

[17]

QUESTION 5

5.1 Are the following statements true or false?

    5.1.1 A rectangle can be classified as a parallelogram but a parallelogram cannot be classified as a rectangle. (1)

    5.1.2 The diagonals of a square cut each other at 90°. (1)

    5.1.3 A trapezium has only one pair of sides that is parallel and equal. (1)
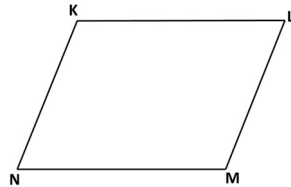
5.2 Find the value of a with reasons. (4)

5.3 Write down two properties of a kite. (2)

[9]

**QUESTION 6 (Answer this question on your answer sheet)**

6.1   Construct ΔDEF with d = 63 mm, e = 82 mm and $E\hat{F}D$ =20°. From D drop a
        perpendicular to FE (extended).   (10)

6.2   What is the length of the perpendicular line you just drew?   (2)

6.3   Construct parallelogram KLMN if $MN\ =\ 10cm;\ KN\ =\ 5cm$ and $K\hat{N}M = 60°$ (6)

                                                                                     [18]

QUESTION 7

7.1   ABCD is a parallelogram with AD = ED. The size of $A\hat{B}C$ is $180° - 2x$.
        Prove, with reasons, that $B\hat{C}D = 2A\hat{E}D$. Show all your working out.   (7)
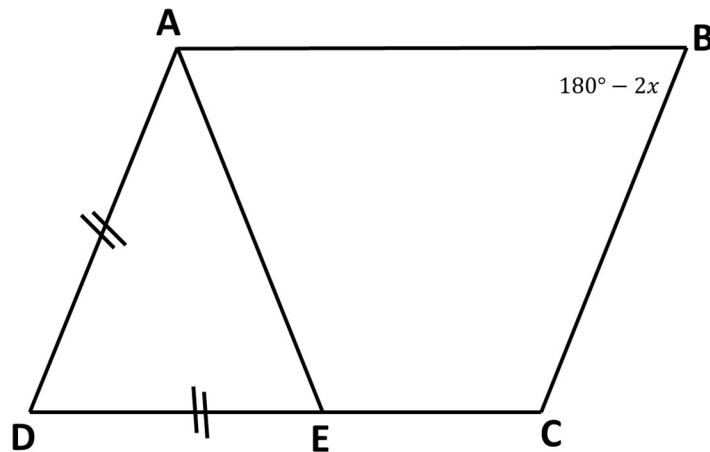
                                                                                      [7]

                                      THE END

ANSWER SHEET – JUNE 2015

Mathematics paper 2

NAME: _____   GR.8_____

BG / BO / ED / HU

QUESTION 6

6.1

6.2   _____

6.3