SCORE ………………………………../..**28**…..

TEACHER'S COMMENT

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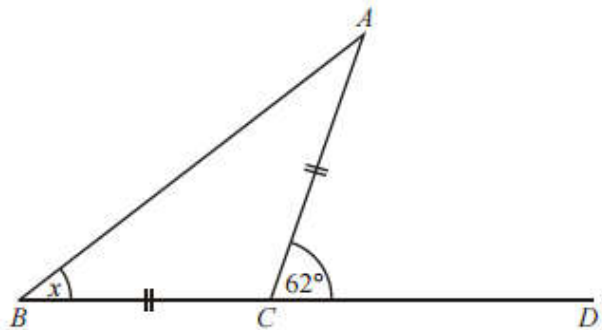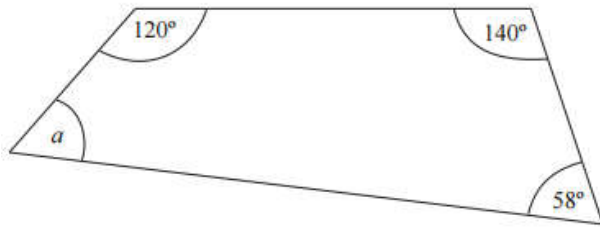**INSTRUCTIONS:** *Answer all the questions given below and clearly show your workings*

1. Solve for $\angle x$ and $\angle y$ **[2MKS]**
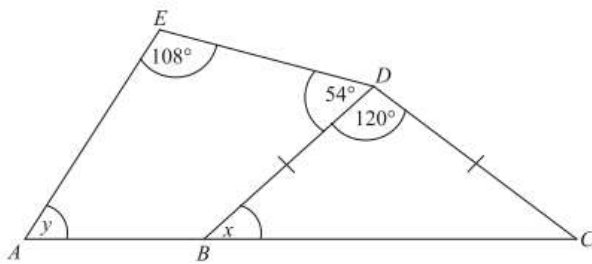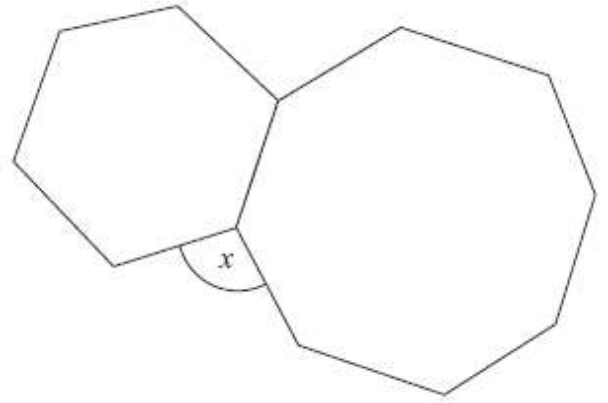

2. Solve for $\angle x$ **[1MK]**

3. Solve for $\angle a$ **[1MK]**

4. The size of each interior angle of a regular polygon is 156°. Work out the number of sides of the polygon. **[3MKS]**

5. The diagram shows a regular hexagon and a regular octagon. Calculate the size of the angle marked x. **[2MKS]**

6. Using line AB below, a pair of compass and a ruler **only**, construct point **C**; 9.5 CM from point A and 6.3 CM from point B, measure $\angle$ACB **[3MKS]**

7. Construct ΔABC such that $\angle ABC = 67.5^0, BC = 8\ CM, \angle BCA = 75^0.$ Measure AC **[3MKS]**

8. Construct an angle of 135^0 using a ruler and pair of compass only **[3MKS]**

9. Draw line PQ = 7 CM. **[5MKS]**
    a. Draw QR = 3 CM such that QR is perpendicular to PQ.
    b. Draw PS = 8 CM such that PS is perpendicular to PQ.
       Join and measure RS. What is the name of figure PQRS?

10. The measured volumes of a gas at various temperatures are shown below **[5MKS]**

Temperature ^{0}C	25	50	75	100	125
Volume (litres)	1.82	1.945	2.075	2.20	2.33

    a. Using a suitable scale, draw the graph of volume against temperature.
    b. Use your graph to find:
        i. The initial volume of the gas (i.e. volume when temperature is 0^0C)
        ii. The volume of the gas when the temperature is 60^0C and 83^0C
        iii. The temperature of the gas when the volume is 2 litres and when it is 2.3 litres