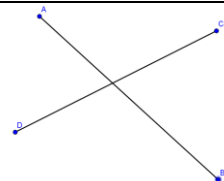
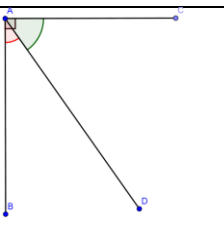
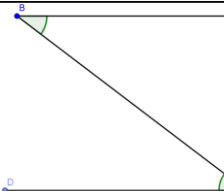
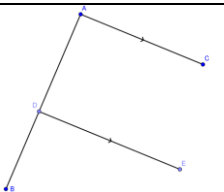
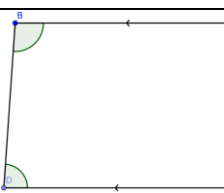
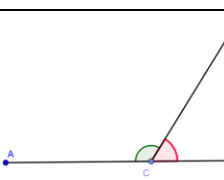


SHARP

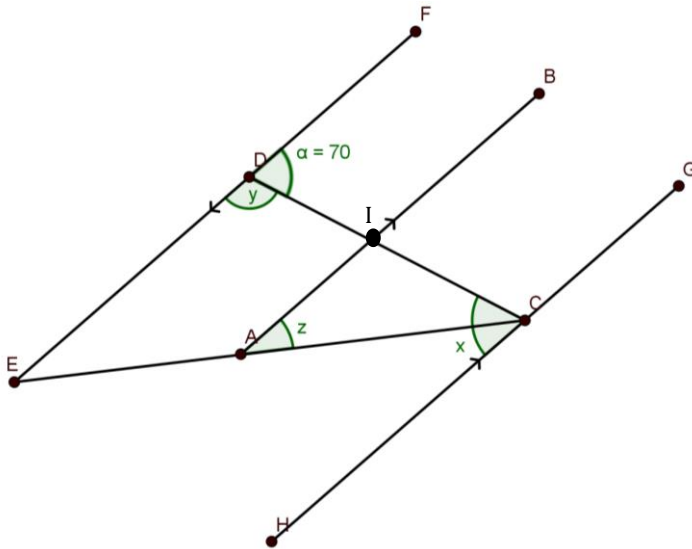
Worksheet 12: Geometry of Straight Lines

Grade 8 Mathematics

1. Match the letter shape with the name of the angles

	Angles		Shape
1.	Corresponding angles	A.	
2.	Supplementary angles	B.	
3.	Vertically opposite angles	C.	
4.	Complementary angles	D.	
5.	Alternate angles	E.	
6.	Co-interior angles	F.	

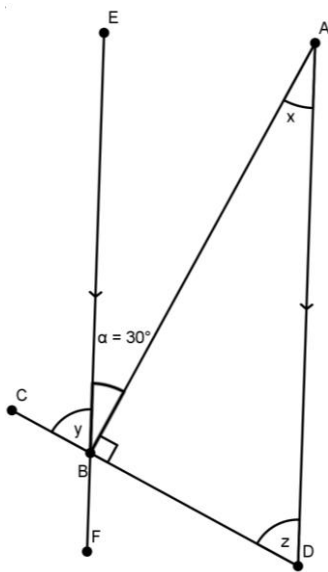
2. Look at the following diagram carefully and answer all the questions. In the diagram EF is parallel to the lines AB and GH.



$\widehat{CDF} = \alpha = 70^\circ$, $\widehat{DCH} = x$, $\widehat{CDE} = y$ and $\widehat{BAC} = z$. EC bisects \widehat{DCH} (bisects means cuts in half).

- Find two corresponding angles equal to α .
- Find two alternating angles equal to α .
- Find the values of x , y and z .

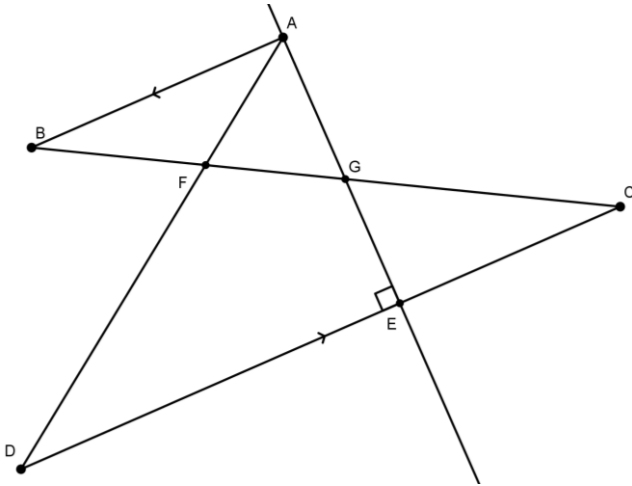
3. Look at the following diagram carefully before answering the questions that follow.



Line AD is parallel to EF. AB is perpendicular to CD. Find with reasons:

- The values of x , y and z .
- Is EB perpendicular to CD? Why or why not?
- If points A and E were joined, what would be the value of the angle \widehat{BEA} given that $\widehat{EAD} = 150^\circ$?
- Which angle is vertically opposite y ?

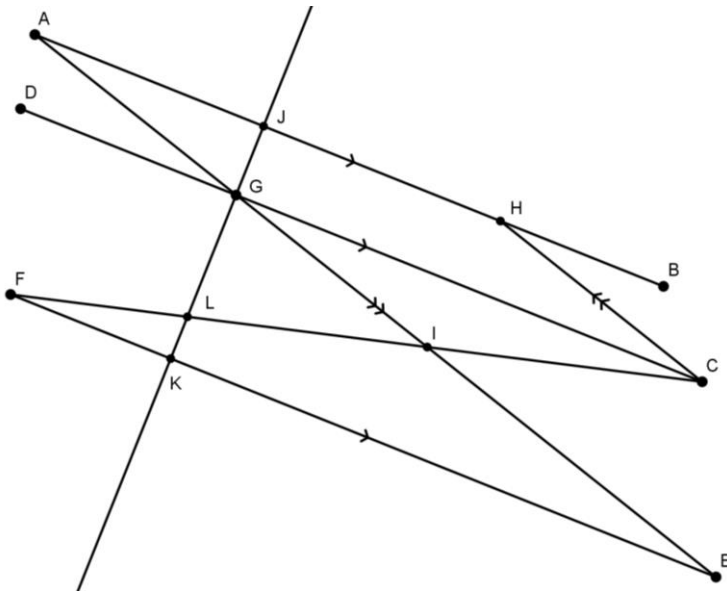
4. Examine the diagram below carefully before answering the questions that follow:



In the diagram, $AB \parallel CD$ and $AE \perp CD$.

- What other angles are equal to 90° ?
- If angle $\hat{BAD} = 25^\circ$, what is the value of the following angles?
Remember to give reasons for your answer.
 - \hat{GAF}
 - \hat{ADE}

5. Look at the diagram below before answering the questions that follow.



In the diagram $AB \parallel DC \parallel FE$ and $AE \parallel HC$.
 $JK \perp EF$.

- Name all the angles equal to \hat{BAE} .
- Name three right-angled triangles.
- Is \hat{HCG} equal to \hat{GEF} ? Why or why not?
- Is $\hat{HCG} = \hat{GCI}$? Why or why not?
- If the points G and H were joined and $\hat{CFE} = \hat{HGC}$, would GH be parallel to FC? Give reasons for your answer.
- Prove that \hat{JHG} is equal to \hat{CFE} .