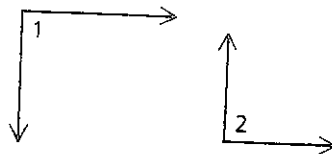


Part Three: Problem Sets

Problem Set A

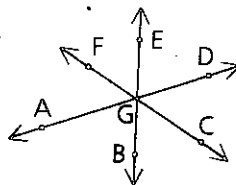
In problems 1 and 2, copy the figure and the incomplete proof. Then complete the proof by filling in the missing reasons.

- 1 Given: $\angle 1$ is a right \angle .
 $\angle 2$ is a right \angle .
 Prove: $\angle 1 \cong \angle 2$



Statements	Reasons
1 $\angle 1$ is a right angle.	1 _____
2 $\angle 2$ is a right angle.	2 _____
3 $\angle 1 \cong \angle 2$	3 _____

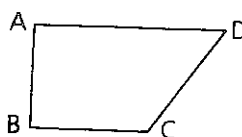
- 2 Given: Diagram as shown
 Prove: $\angle AGD \cong \angle EGB$



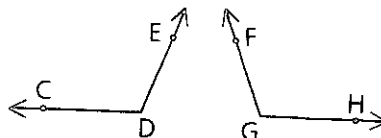
Statements	Reasons
1 Diagram as shown	1 _____
2 $\angle AGD$ is a straight angle.	2 _____
3 $\angle EGB$ is a straight angle.	3 _____
4 $\angle AGD \cong \angle EGB$	4 _____

In problems 3-7, use the two-column form of proof.

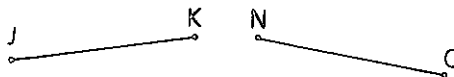
- 3 Given: $\angle A$ is a right angle.
 $\angle B$ is a right angle.
 Prove: $\angle A \cong \angle B$



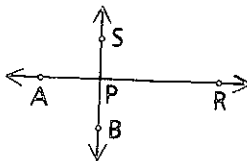
- 4 Given: $\angle CDE = 110^\circ$,
 $\angle FGH = 110^\circ$
 Conclusion: $\angle CDE \cong \angle FGH$



- 5 Given: $JK = 2.5$ cm, $NO = 2.5$ cm
 Conclusion: $\overline{JK} \cong \overline{NO}$

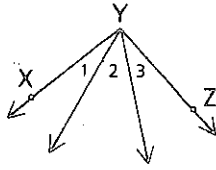


- 6 Given: Diagram as shown
 Prove: $\angle APR \cong \angle SPB$



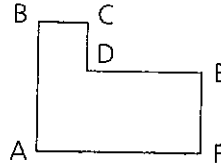
- 7 Given: $\angle 1 = 20^\circ$,
 $\angle 2 = 40^\circ$,
 $\angle 3 = 30^\circ$

Prove: $\angle XYZ$ is a right angle.



- 8 Draw the figure ABCDEF.

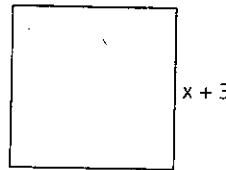
- a Draw its reflection over \overleftrightarrow{AF} .
b Draw its reflection over \overleftrightarrow{AB} .
c Draw a 90° clockwise rotation of the figure about B.



- 9 Find the angle formed by the hands of a clock at 11:40.

- 10 The square has a perimeter of 42.

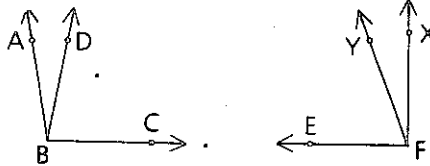
- a Solve for x .
b If the perimeter were greater than 42, what would we know about the value of x ?



Problem Set B

- 11 Given: $\angle ABD = 10^\circ$,
 $\angle ABC = 100^\circ$,
 $\angle EFY = 70^\circ 20'$,
 $\angle XFY = 19^\circ 40'$

Prove: $\angle DBC \cong \angle XFE$



- 12 Point P has a coordinate of 7 on a number line. If you "slide" P 15 units in the negative direction, what are the coordinates of the resulting point P'?

- 13 a Draw a number line, labeling points $A = (-1)$ and $B = (5)$. Then label point A', the reflection of A over B.
b Does $AB = BA'$?
c What do we know about point B?

Problem Set C

- 14 The measure of an obtuse angle is $5y + 45$. What are the restrictions on y ?

- 15 Given: $\angle 1 = (x + 7)^\circ$,
 $\angle 2 = (2x - 3)^\circ$,
 $\angle ABC = (x^2)^\circ$,
 $\angle D = (5x - 4)^\circ$

Show that $\angle ABC \cong \angle D$.

