

Classroom Exercises

Suppose you know that $\triangle FIN \cong \triangle WEB$.

1. Name the three pairs of corresponding sides. $\overline{FI}, \overline{WE}; \overline{IN}, \overline{EB}; \overline{FN}, \overline{WB}$
2. Name the three pairs of corresponding angles. $\angle F, \angle W; \angle I, \angle E; \angle N, \angle B$
3. Is it correct to say $\triangle NIF \cong \triangle BEW$? **Yes**
4. Is it correct to say $\triangle INF \cong \triangle EWB$? **No**

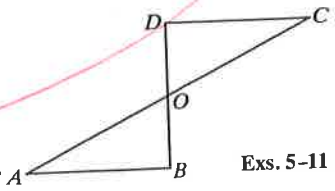
10. If 2 lines are cut by a trans. and alt. int. \angle are \cong , then the lines are \parallel .
The two triangles shown are congruent. Complete.

5. $\triangle ABO \cong \underline{\quad ? \quad} \triangle CDO$
6. $\angle A \cong \underline{\quad ? \quad} \angle C$
7. $\overline{AO} \cong \underline{\quad ? \quad} \overline{CO}$
8. $BO = \underline{\quad ? \quad} DO$

9. Can you deduce that O is the midpoint of any segment? Explain. **See above.**

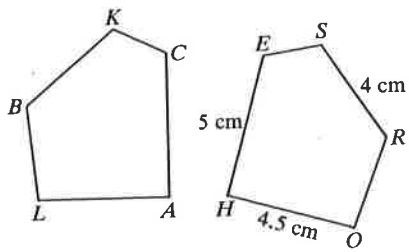
10. Explain how you can deduce that $\overline{DC} \parallel \overline{AB}$. **See above.**

11. Suppose you know that $\overline{DB} \perp \overline{DC}$. Explain how you can deduce that $\overline{DB} \perp \overline{BA}$. **If $\overline{DB} \perp \overline{DC}$, then $m\angle D = 90$. But $m\angle D = m\angle B$, so $m\angle B = 90$. Therefore, $\overline{DB} \perp \overline{BA}$.**



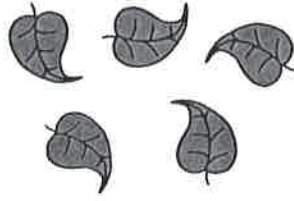
The pentagons shown are congruent. Complete.

12. B corresponds to $\underline{\quad ? \quad}$. R
13. $BLACK \cong \underline{\quad ? \quad} ROHES$
14. $\underline{\quad ? \quad} = m\angle E$ $m\angle C$
15. $KB = \underline{\quad ? \quad}$ cm 4



16. If $\overline{CA} \perp \overline{LA}$, name two right angles in the figures. $\angle A, \angle H$

17. The five leaves shown are all congruent, but one differs from the others. Which one is different and how?

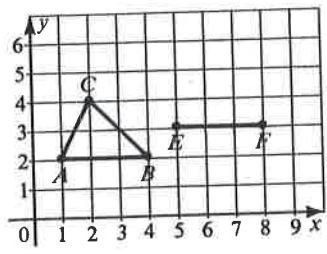


The leaf in the lower left-hand corner is flipped over.

18. a. Name the coordinates of points A, B , and C .
b. Name the coordinates of a point D such that $\triangle ABC \cong \triangle ABD$. $D(2, 0)$

19. Name the coordinates of a point G such that $\triangle ABC \cong \triangle EFG$. Is there another location for G such that $\triangle ABC \cong \triangle EFG$? $G(6, 5)$ or $G(6, 1)$

20. Name the coordinates of two possible points H such that $\triangle ABC \cong \triangle FEH$. $H(7, 5)$ or $H(7, 1)$



Teaching Note

Draw two congruent segments \overline{TP} and \overline{SF} and write $\triangle TIP \cong \triangle \underline{\quad} U$ on the chalkboard. Tell students you will hold a finger at a point of $\triangle TIP$ and state a congruence, using either SUF or FUS . Call on students to show two possible positions for point U , using both hands. Then position your finger and say, " $\triangle TIP \cong \triangle SUF$." Repeat the activity using other positions. Sometimes you should use SUF , and other times use FUS .

Exercise Note

For Exs. 5-11, students will see that the following matching is the one to use.

$$A \leftrightarrow C, B \leftrightarrow D, O \leftrightarrow O$$

It may help to write this matching on the chalkboard and to call attention to the fact that a point can correspond to itself.