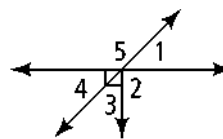


Exploring Angle Pairs Assignment

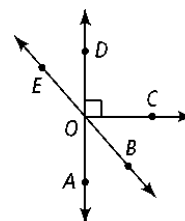
Use the diagram at the right. Is each statement true? Explain.

1. $\angle 2$ and $\angle 5$ are adjacent angles.
2. $\angle 1$ and $\angle 4$ are vertical angles.
3. $\angle 4$ and $\angle 5$ are complementary.



Name an angle or angles in the diagram described by each of the following.

4. complementary to $\angle BOC$
5. supplementary to $\angle DOB$
6. adjacent and supplementary to $\angle AOC$



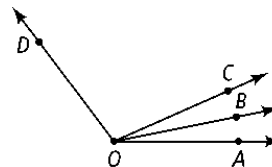
Use the diagram on the right for Exercises 7 and 8. Solve for x . Find the angle measures.

7. $m\angle AOB = 4x - 1$; $m\angle BOC = 2x + 15$; $m\angle AOC = 8x + 8$

8. $m\angle COD = 8x + 13$; $m\angle BOC = 3x - 10$; $m\angle BOD = 12x - 6$

9. $\angle ABC$ and $\angle EBF$ are a pair of vertical angles; $m\angle ABC = 3x + 8$ and $m\angle EBF = 2x + 48$. What are $m\angle ABC$ and $m\angle EBF$?

10. $\angle JKL$ and $\angle MNP$ are complementary; $m\angle JKL = 2x - 3$ and $m\angle MNP = 5x + 2$. What are $m\angle JKL$ and $m\angle MNP$?



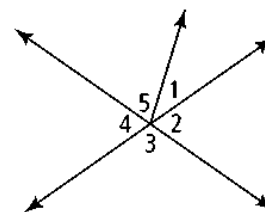
For Exercises 11–14, can you make each conclusion from the information in the diagram? Explain.

11. $\angle 3 \cong \angle 4$

12. $\angle 2 \cong \angle 4$

13. $m\angle 1 + m\angle 5 = m\angle 3$

14. $m\angle 3 = 90$



15. \overline{KM} bisects $\angle JKL$. If $m\angle JKM = 86$, what is $m\angle JKL$?

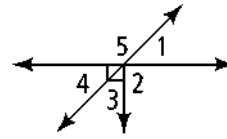
16. \overline{SV} bisects $\angle RST$. If $m\angle RST = 62$, what is $m\angle RSV$?

Exploring Angle Pairs Assignment

ANSWERS

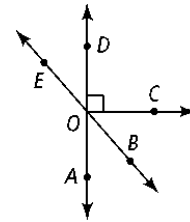
Use the diagram at the right. Is each statement true? Explain.

1. $\angle 2$ and $\angle 5$ are adjacent angles. **FALSE**
2. $\angle 1$ and $\angle 4$ are vertical angles. **TRUE**
3. $\angle 4$ and $\angle 5$ are complementary. **FALSE**



Name an angle or angles in the diagram described by each of the following.

4. complementary to $\angle BOC$ **$\angle BOA$**
5. supplementary to $\angle DOB$ **$\angle BOA$**
6. adjacent and supplementary to $\angle AOC$ **$\angle DOC$**



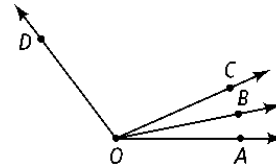
Use the diagram on the right for Exercises 7 and 8. Solve for x .
Find the angle measures.

7. $m\angle AOB = 4x - 1$; $m\angle BOC = 2x + 15$; $m\angle AOC = 8x + 8$

$x = 3$

8. $m\angle COD = 8x + 13$; $m\angle BOC = 3x - 10$; $m\angle BOD = 12x - 6$

$x = 9$

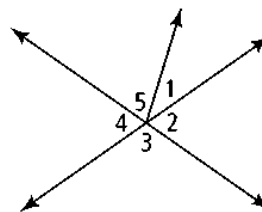


9. $\angle ABC$ and $\angle EBF$ are a pair of vertical angles; $m\angle ABC = 3x + 8$ and $m\angle EBF = 2x + 48$. What are $m\angle ABC$ and $m\angle EBF$?

128°

10. $\angle JKL$ and $\angle MNP$ are complementary; $m\angle JKL = 2x - 3$ and $m\angle MNP = 5x + 2$. What are $m\angle JKL$ and $m\angle MNP$?

Exploring Angle Pairs Assignment



$\angle JKL = 23^\circ$

$\angle MNP = 67^\circ$

For Exercises 11–14, can you make each conclusion from the information in the diagram? Explain.

11. $\angle 3 \cong \angle 4$

TRUE

12. $\angle 2 \cong \angle 4$

TRUE

13. $m\angle 1 + m\angle 5 = m\angle 3$

TRUE

14. $m\angle 3 = 90$

TRUE

15. \overline{KM} bisects $\angle JKL$. If $m\angle JKM = 86$, what is $m\angle JKL$?

172°

16. \overline{SV} bisects $\angle RST$. If $m\angle RST = 62$, what is $m\angle RSV$?

31°