Name: _____ Period: _____ Date: _____

Exploring Angle Pairs Bell Work

$\overrightarrow{QS}$ **bisects $\angle PQR$. Solve for x and find $m\angle PQR$.**

1. $m\angle PQS = 3x$; $m\angle SQR = 5x - 20$

2. $m\angle PQS = 2x + 1$; $m\angle RQS = 4x - 15$

3. $m\angle PQR = 3x - 12$; $m\angle PQS = 30$

4. $m\angle PQS = 2x + 10$; $m\angle SQR = 5x - 17$

5. $\angle MLN$ and $\angle JLK$ are complementary, $m\angle MLN = 7x - 1$, and $m\angle JLK = 4x + 3$.

a. Solve for x.

b. Find $m\angle MLN$ and $m\angle JKL$.

c. Show how you can check your answer.

6. Describe all the situations in which the following statements are true.

a. Two vertical angles are also complementary.

b. A linear pair is also supplementary.

c. Two supplementary angles are also a linear pair.

d. Two vertical angles are also a linear pair.

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Exploring Angle Pairs Bell Work

ANSWERS

$\overrightarrow{QS}$ **bisects ∠*PQR*. Solve for *x* and find *m*∠*PQR*.**

1. $m\angle PQS = 3x$; $m\angle SQR = 5x - 20$

X = 10

2. $m\angle PQS = 2x + 1$; $m\angle RQS = 4x - 15$

X = 8

3. $m\angle PQR = 3x - 12$; $m\angle PQS = 30$

X = 14

4. $m\angle PQS = 2x + 10$; $m\angle SQR = 5x - 17$

X = 9

5. ∠*MLN* and ∠*JLK* are complementary, $m\angle MLN = 7x - 1$, and $m\angle JLK = 4x + 3$.

a. Solve for *x*. **X = 8**

b. Find $m\angle MLN$ and $m\angle JKL$. **<MLN = 55** **<JLK = 35**

c. Show how you can check your answer. **55 + 35 = 90°**

6. Describe all the situations in which the following statements are true.

a. Two vertical angles are also complementary. **TWO 45° ANGLES**

b. A linear pair is also supplementary. **ANY TWO ANGLES THAT SHARE A SIDE AND VERTEX THAT HAVE A SUM OF 180°.**

c. Two supplementary angles are also a linear pair. **ANY 2 ANGLES WITH A SUM OF 180° AND SHARE A SIDE AND VERTEX.**

d. Two vertical angles are also a linear pair. **TWO 90° ANGLE**