

Lesson 2.8.1: Writing Proofs

Total points = 30

A. Answers

- 1. Definition of acute angle✓
- 2. Definition of complementary angles✓
- 3. Definition of midpoint✓
- 4. Definition of congruent segments✓
- 5. Division property of equality ✓
- 6. Subtraction property of equality ✓
- 7. Definition of segment bisector✓
- 8. Law of substitution✓
- 9. Transitive property of equality ✓
- 10. Definition of congruent angles✓

B. Answers

- 1.  $\angle 1$  and  $\angle 2$  form a linear pair. ✓  
Reason: Definition of linear pair ✓
- 2.  $m\angle C + m\angle D = 90^\circ$ . ✓  
Reason: Definition of complementary angles ✓
- 3.  $\angle WXY$  is a right angle. ✓  
Reason: Definition of perpendicular line segments ✓
- 4.  $MN = OP$ . ✓  
Reason: Definition of congruent segments ✓
- 5.  $\frac{3x}{3} = \frac{12}{3}$ . ✓  
Reason: Division property ✓
- 6.  $m\angle M = m\angle N$ . ✓  
Reason: Definition of congruent angles ✓
- 7.  $x - 3 + 3 = 5 + 3$ . ✓  
Reason: Addition property ✓
- 8.  $x + 2 = 5$ . ✓  
Reason: Law of substitution ✓
- 9.  $\overline{XZ} = XY + YZ$ . ✓  
Reason: Definition of betweenness ✓
- 10.  $m\angle X + m\angle Y = 180^\circ$ . ✓  
Reason: Definition of supplementary angles ✓

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