

## Geometry - Chapter 2 Review

Name: \_\_\_\_\_

1. If two numbers are even, then their sum is even.

Hypothesis: \_\_\_\_\_

Conclusion: \_\_\_\_\_

|           |
|-----------|
| Converse: |
|-----------|

2. If today is Sunday, then tomorrow is Monday.

Converse: \_\_\_\_\_

3. If a number is even, then it is divisible by 2.

Converse: \_\_\_\_\_

6. If an angle has measure  $105^\circ$ , then it is an obtuse angle.

Converse: \_\_\_\_\_

Inverse: \_\_\_\_\_

Contrapositive: \_\_\_\_\_

**ame the property that justifies the statement.**

1. If  $AB + 5 = DE + 5$ , then  $AB = DE$ .
2.  $m\angle ABC = m\angle ABC$
3. If  $3x = 9$ , then  $x = 3$ .
4. If  $15 = CD$ , then  $CD = 15$ .
5. If  $\angle W \cong \angle Q$  and  $\angle Q \cong \angle S$ , then  $\angle W \cong \angle S$ .

**Determine the reason or justification for each new statement.**

- |                      |          |
|----------------------|----------|
| 1. $5x + 7 = 9x - 3$ | 1. Given |
| 2. $7 = 4x - 3$      | 2. _____ |
| 3. $10 = 4x$         | 3. _____ |
| 4. $\frac{5}{2} = x$ | 4. _____ |
| 5. $x = \frac{5}{2}$ | 5. _____ |

**Postulates and definitions can also be used as justifications in proofs.**

**Postulates used in proofs:**

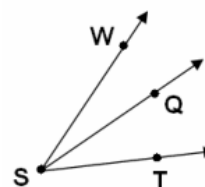
**1.**



- |                   |          |
|-------------------|----------|
| 1. $XR + RW = XW$ | 1. _____ |
|-------------------|----------|

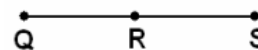
**2.**

- |  |          |
|--|----------|
| 1. $m\angle WSQ + m\angle QST = m\angle WST$ | 1. _____ |
|--|----------|



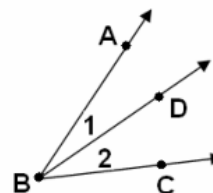
**3.**

- |   |          |
|---|----------|
| 1. R is the midpoint of $\overline{QS}$ | 1. Given |
| 2. $\overline{QR} \cong \overline{RS}$  | 2. _____ |



**4.**

- |   |          |
|---|----------|
| 1. $\overline{BD}$ bisects $\angle ABC$ | 1. Given |
| 2. $\angle 1 \cong \angle 2$            | 2. _____ |



Given:  $\angle A$  is complementary to  $\angle C$ ,  $m\angle A = 30^\circ$

Prove:  $m\angle C = 60^\circ$

| Pf: | Statements                                   | Reasons  |
|-----|--|----------|
|     | 1. $\angle A$ is complementary to $\angle C$ | 1. _____ |
|     | 2. $m\angle A + m\angle C = 90^\circ$        | 2. _____ |
|     | 3. $m\angle A = 30^\circ$                    | 3. _____ |
|     | 4. $30^\circ + m\angle C = 90^\circ$         | 4. _____ |
|     | 5. $m\angle C = 60^\circ$                    | 5. _____ |

Write a two column proof:

Given:  $m\angle QTR = (2x + 18)^\circ$

$m\angle RTS = (x + 6)^\circ$

$m\angle QTS = 42^\circ$

Prove:  $x = 6$

