Chapter 2 Reasoning and Proof - REVIEW

2.2 Analyze Conditional Statements

Write the if-then form, the converse, the inverse, and the contrapositive of the statement:

"The heart of a mouse beats at least 600 times a minute."

If-then:
(If p, then q.)

Converse:
(If q, then p.)

Inverse:
(If not p, then not q.)

Contrapositive:
(If not q, then not p.)

Lesson 2.2 Review

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2.3 Apply Deductive Reasoning

For the statements below, can a conclusion be made?

If yes: 1) Make a conclusion
2) State which law of logic you used

If no: Write "no conclusion"

1. If two segments have the same length, they they are congruent.
   The length of $\overline{MP}$ is the same as the length of $\overline{WU}$.

2. If $x = 4$, then $2x = 8$.
   If $x = 4$, then $x^2 = 16$.

3. If it rains on Tuesday, I will wear my rainboots.
   If I wear my rainboots, I will wear socks.

Lesson 2.3 Review

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2.4 Use Postulates and Diagrams

$\overleftrightarrow{MN}$ intersects $\overline{RS}$ at its midpoint T so that $\overleftrightarrow{MN} \perp \overline{RS}$.

Sketch a diagram that represents the given information.

Lesson 2.4 Review

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2.5 Reason Using Properties from Algebra

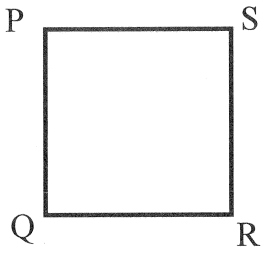
Solve $-4x + 2(3x + 8) = -(x + 8)$ and write a reason for each step.

Lesson 2.5 Review

Proof Practice

Given: PQ = SR, SP = QR, $\overline{SR} \cong \overline{SP}$

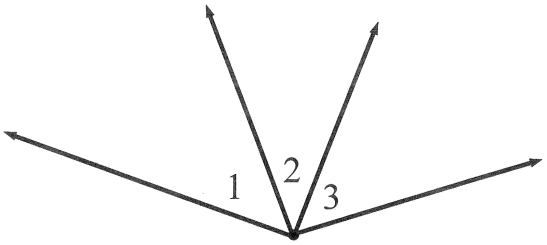
Prove: $\overline{PQ} \cong \overline{QR}$



Statements	Reasons
1.)	1.)
2.)	2.)
3.)	3.)
4.)	4.)

Given: $\angle 3$ and $\angle 2$ are complimentary.
$m\angle 1 + m\angle 2 = 90°$

Prove: $\angle 3 \cong \angle 1$

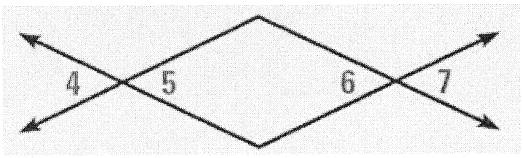


Statements	Reasons
1.)	1.)
2.)	2.)
3.)	3.)
4.)	4.)
5.)	5.)

Proof Practice

Given: $\angle 5 \cong \angle 6$

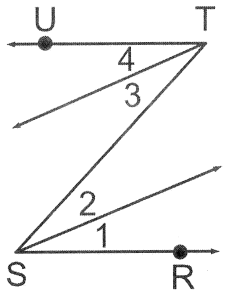
Prove: $\angle 4 \cong \angle 7$



Statements	Reasons
1.)	1.)
2.)	2.)
3.)	3.)

Given: $\angle 1 \cong \angle 3,\ \angle 2 \cong \angle 4$

Prove: $\angle RST \cong \angle STU$



Statements	Reasons
1.)	1.)
2.)	2.)
3.)	3.)
4.)	4.)
5.)	5.)
6.)	6.)