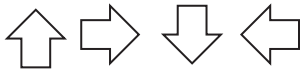
LESSON 45 Review: 1st Quarter

Let's review. Be sure to check the corresponding lesson(s) if you get any problem(s) wrong.

(Lesson 23) Describe the pattern in each sequence, then find the next two items.

1. 1, 4, 8, 12, 16, ...

2. 

(Lesson 23 & 24) Solve.

3. All prime numbers are odd. Is this conjecture true? If false, give a counterexample.

4. All right angles measure 90°. Write this statement in if-then form and write its converse.

5. Write the following biconditional statement as two conditional statements. Two figures are congruent if and only if they are the same shape and size.

6. Write the following definition as a single biconditional statement. The midpoint of a segment is the point that divides the segment into two congruent segments.

7. What conclusion can you draw from the following two statements? If two lines are parallel, then they do not intersect. Line l is parallel to line m.

(Lesson 25) Name the property of equality or congruence shown by each statement.

8. If $PQ = RS$, then $PQ + XY = RS + XY$.

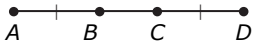
9. If $\overline{LM} \cong \overline{PQ}$ and $\overline{PQ} \cong \overline{XY}$, then $\overline{LM} \cong \overline{XY}$.

(Lesson 26) Complete each proof.

10. Given: $\angle 1$ and $\angle 2$ are right angles.
Prove: $\angle 1 \cong \angle 2$

STATEMENTS	REASONS
1. $\angle 1$ is a right angle. $\angle 2$ is a right angle.	1. Given
2. $m\angle 1 = 90°$ $m\angle 2 = 90°$	2.
3. $m\angle 1 = m\angle 2$	3.
4. $\angle 1 \cong \angle 2$	4.

11. Given: $\overline{AB} \cong \overline{CD}$
Prove: $\overline{AC} \cong \overline{BD}$



STATEMENTS	REASONS
1. $\overline{AB} \cong \overline{CD}$	1. Given
2. $AB = CD$	2.
3. $AB + BC = BC + CD$	3.
4. $AB + BC = AC$ $BC + CD = BD$	4. Segment Addition Postulate
5. $AC = BD$	5.
6. $\overline{AC} \cong \overline{BD}$	6.

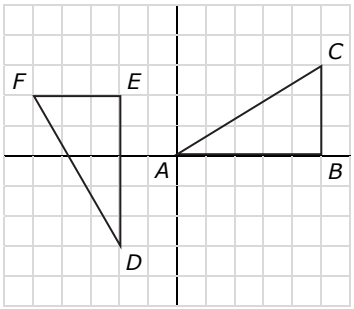
(Lesson 27) Write an indirect proof.

12. Given: $4x + 5 < 25$
Prove: $x < 5$

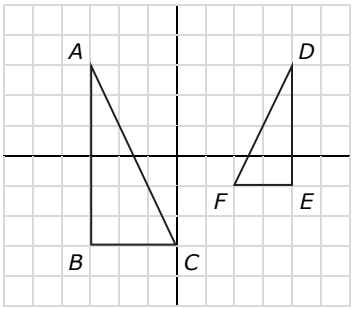
13. Given: $\triangle ABC$ is obtuse at A.
Prove: $\angle B$ is not obtuse.

(Lesson 28) Prove that $\triangle ABC$ is congruent or similar to $\triangle DEF$ by describing a sequence of transformations that maps $\triangle ABC$ to $\triangle DEF$.

14.

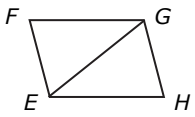


15.



(Lesson 36) Complete the proof.

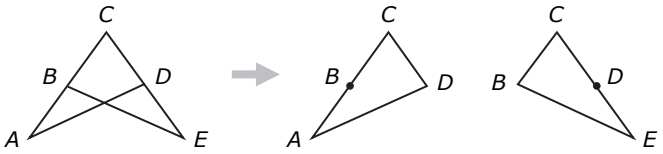
16. Given: $\overline{EF} \cong \overline{GH}$, $\overline{FG} \cong \overline{HE}$
Prove: $\triangle EFG \cong \triangle GHE$



STATEMENTS	REASONS
1. $\overline{EF} \cong \overline{GH}$, $\overline{FG} \cong \overline{HE}$	1. Given
2. $\overline{GE} \cong \overline{EG}$	2.
3. $\triangle EFG \cong \triangle GHE$	3.

(Lesson 39) Complete the proof.

17. Given: $\overline{AB} \cong \overline{ED}, \overline{BC} \cong \overline{DC}$
Prove: $\overline{AD} \cong \overline{EB}$

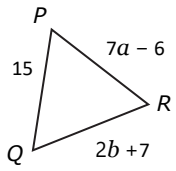


STATEMENTS	REASONS
1. $\overline{AB} \cong \overline{ED}$, $\overline{BC} \cong \overline{DC}$	1. Given
2. $AB = ED$, $BC = DC$	2.
3. $AB + BC = ED + DC$	3. Addition Prop.
4. $AC = AB + BC$ $EC = ED + DC$	4.

STATEMENTS (cont.)	REASONS (cont.)
5. $AC = EC$	5. Substitution Prop.
6. $\overline{AC} \cong \overline{EC}$	6.
7. $\angle C \cong \angle C$	7.
8. $\triangle ACD \cong \triangle ECB$	8.
9. $\overline{AD} \cong \overline{EB}$	9.

(Lesson 40) Use the given information to find the values of the variables.

18. $\angle P \cong \angle Q \cong \angle R$



19. $\overline{AB} \cong \overline{AC} \cong \overline{CD}$