

LESSON 45

- Each term is 4 times the previous term. The next two terms are 20 and 24.
- Each time the arrow rotates clockwise by 90° .



- false; 2 is prime but even.
- If an angle is a right angle, then it measures 90° .
If an angle measures 90° , then it is a right angle.
- If two figures are congruent, then they have the same shape and size.
If two figures have the same shape and size, then they are congruent.
- A point is the midpoint of a segment if and only if it divides the segment into two congruent segments.
- Lines l and m do not intersect.
- Addition Property
- Transitive Property
2. Def. of right angle
2. Def. of \cong segments
3. Transitive Property
3. Addition Property
4. Def. of \cong angles
5. Substitution Prop.
6. Def. of \cong segments
- Assume $x < 5$ is false. Then $x \geq 5$. Use algebra to try to make $x \geq 5$ equal to the given statement. Multiplying each side by 4 and adding 5 would produce $4x + 5 \geq 25$. This contradicts the given statement that $4x + 5 < 25$. Therefore, our assumption is wrong and $x < 5$ is true.
- Assume $\angle B$ is obtuse. An obtuse angle is greater than 90° . By the given statement, $\angle A$ is obtuse. So if $\angle B$ is also obtuse, then $\angle A$ and $\angle B$ add up to greater than 180° . This contradicts the fact that the three angles in a triangle add up to 180° . Therefore, our assumption is wrong and $\angle B$ is not obtuse.
- A rotation of 90° about the origin followed by a translation of 2 units left and 3 units down will map $\triangle ABC$ to $\triangle DEF$. Therefore, the two triangles are congruent.
- A dilation about the origin by scale factor $2/3$, a reflection over the y -axis, and then a translation of 2 units right and 1 unit up will map $\triangle ABC$ to $\triangle DEF$. Therefore, the two triangles are similar.
2. Reflexive Property
3. SSS
2. Def. of congruent segments
4. Segment Addition Postulate
6. Def. of congruent segments
7. Reflexive Property
8. SAS (Steps 1, 6, and 7)
9. CPCTC

- An equiangular triangle is equilateral.

$$15 = 7a - 6 = 2b + 7$$

$$a = 3, b = 4$$

- Base angles of an isosceles triangle are congruent.

$$a = 180 - 2(33) = 114$$

$$b = 180 - a = 66$$

$$c = b = 66$$