

1. Name the property of equality that the statement illustrates.

a. If $3x + 5 = 8$ then $3x = 3$

b. $y = y$

c. If $m\angle A = 32$ and $m\angle B = 32$ then $m\angle A = m\angle B$

d. If $2x + 3x = 12$ then $5x = 12$

2. Use the property to complete the statement.

Substitution Property of Equality - If $4 + 5x + 7 = 12$ then

Distributive Property - If $7(2x+9) = 10$ then

Reflexive Property of Equality - $AB =$

Addition Property of Equality - If $MN = KL$ then $MN + AB =$

Substitution Property of Equality - If $XY = 10$ then $MJ + XY =$

3. List the five parts of a proof.

4. Fill in the missing word for circles:

a. A segment with both endpoints on the circle and containing the center is called a

b. A line that intersects the circle at two points is called a

c. A line that intersects the circle at one point is called a

d. A segment with one endpoint on the circle and one endpoint at the center of the circle is called a

e. A segment with both endpoints on the circle.

5. Given $\angle 1$ is a complement of $\angle 2$

$$\angle 2 \cong \angle 3$$

Prove $\angle 1$ is a complement of $\angle 3$

Statements	Reasons
1. $\angle 1$ is a complement of $\angle 2$	1.
2. $\angle 2 \cong \angle 3$	2.
3. $m\angle 1 + m\angle 2 = 90$	3.
4. $m\angle 2 = m\angle 3$	4. Definition of congruent angles
5.	5. Substitution Property of Equality
6. $\angle 1$ is a complement of $\angle 3$	6.

6. Factor and solve for x . $x^2 - 8x + 15 = 0$

$x^2 + 10x + 21 = 0$

7. Simplify the square roots and SHOW WORK!!!

$$2\sqrt{12}$$

$$(\sqrt{63})^2$$

$$(2\sqrt{11})^2$$

8. Two angles make a linear pair. One angle is 4 times than the other angle. Find the angles.

9. Find the diagonal of a square with sides of 5 feet. Draw a picture and show your work. Round to tenths.

10. What is a figure with all congruent sides and all congruent angles?

11. Find the total degrees in a 13-sided polygon. Write the formula and show your work.

12. If $4(3+4x) = 52-4x$ then $x = 2$. Show ALL of the steps to solve this equation and provide reasons for each step.

13. Find the midpoint of AB. A(-3,2) and B(8,-1),