 Per: ____ Name: _____

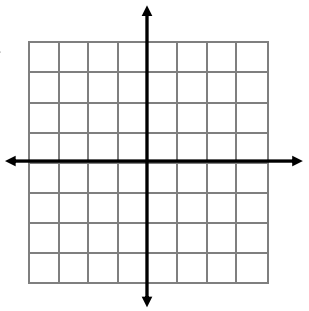
Unit 1 Review - Transformations

Identify the type of transformation the rule represents. Use the given rule to determine the image of (2, -4) and the pre-image of (0, 3). (Sketching a graph may help you.)

1. **T:(x, y) → (x + 5, y – 6)** Transformation Name: _____
   Image of (2, -4) is _____. Pre-image of (0, 3) is _____.

2. **R_x: (x, y) → (x, -y)** Transformation Name: _____
   Image of (2, -4) is _____. Pre-image of (0, 3) is _____.

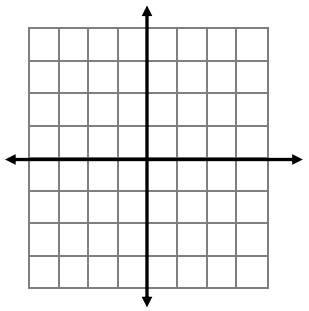
3. **R_y: (x, y)→ (-x, y)** Transformation Name: _____
   Image of (2, -4) is _____. Pre-image of (0, 3) is _____.



4. **$R_{y=x}$: (x, y) → (y, x)** Transformation Name: _____
   Image of (2, -4) is _____. Pre-image of (0, 3) is _____.

5. **$\mathcal{R}_{90}$: (x, y) → (-y, x)** Transformation Name: _____
   Image of (2, -4) is _____. Pre-image of (0, 3) is _____.

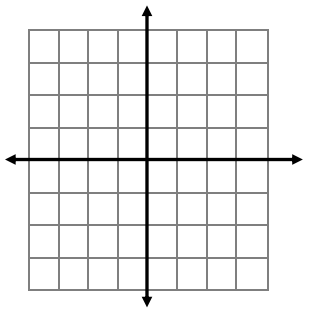
6. **$\mathcal{R}_{-90}$: (x, y) → (-y, x)** Transformation Name: _____
   Image of (2, -4) is _____. Pre-image of (0, 3) is _____.



7. **$D_{O, ½}$: (x, y) → (½x, ½y)** Transformation Name: _____
   Image of (2, -4) is _____. Pre-image of (0, 3) is _____.

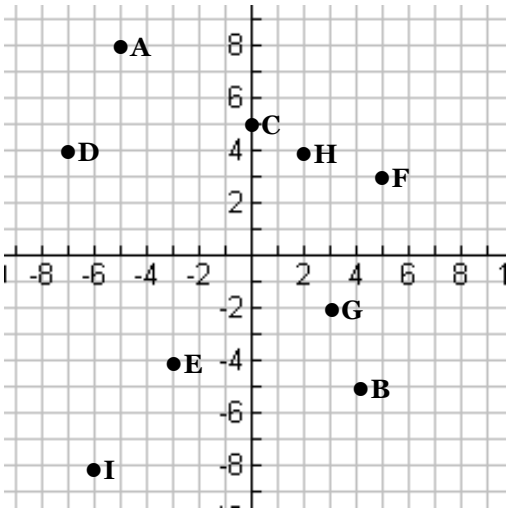
8. **$D_{O, 2}$: (x, y) → (2x, 2x)** Transformation Name: _____
   Image of (2, -4) is _____. Pre-image of (0, 3) is _____.

9. **$D_{O, -1}$: (x, y) → (-x, -y)** Transformation Name: _____
   Image of (2, -4) is _____. Pre-image of (0, 3) is _____.



You may use the coordinate plane to determine each of the following. Identify the type of transformation and determine the image. Give your answer for the image as a coordinate point.

	Transformation Type	Image
10. **T: A→(x + 3, y – 5)**		
11. **R_x : B → (_,_)**		
12. **R_y: C → (_,_)**		
13. **$R_{y=x}$: D → (_,_)**		
14. **$\mathcal{R}_{90}$: E → (_,_)**		
15. **$\mathcal{R}_{90}$: F → (_,_)**		
16. **$D_{O, 3}$: G → (_,_)**		
17. **$D_{O, -2}$: H → (_,_)**		
18. **$D_{O, ½}$: I → (_,_)**		



Unit 2 Review - Vocabulary

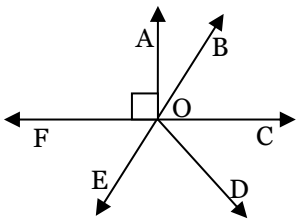
Describe each theorem, definition or postulate. Draw a diagram to represent each, and write an equation that is used to solve for values using that theorem, definition or postulate.

Segment Addition Postulate	**Angle Addition Postulate**	**Definition of Midpoint**
Description	Description	Description
Diagram	Diagram	Diagram
Equation	Equation	Equation

Definition of Angle Bisector	**Vertical Angle Theorem**	**Definition of Supplementary $\angle$s**
Description	Description	Description
Diagram	Diagram	Diagram
Equation	Equation	Equation

Use the given diagram to write an equation and solve for the value of x.

1. $\overrightarrow{OC}$ is the bisector of $\angle BOD$.
   $m\angle BOC = 9x + 3$ and $m\angle DOC = 8x + 7$



2. O is the midpoint of $\overline{FC}$
   $FO = 3x + 6$ and $OC = 5x - 4$

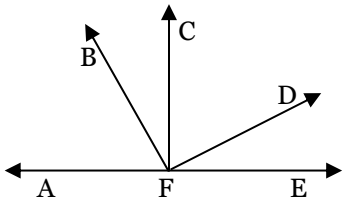
3. $m\angle FOE = 3x - 1$, $m\angle EOD = 72^\circ$
   and $m\angle FOD = 6x + 11$

4. $EB = 6x - 8$, $OB = 12$ and $OE = 4x - 2$

5. $m\angle EOA = 13x$ and $m\angle AOB = x + 12$

 Per: ____ Name: _____

Unit 3 Review – Proofs & Reasons



Use the diagram to identify a reason that justifies each statement.

1. AF + FE = AE _____
2. $m\angle BFC + m\angle CFE = m\angle BFE$ _____
3. $m\angle AFB + m\angle BFE = 180°$ _____
4. If F is the midpoint of $\overline{AE}$, then AF = EF. _____
5. If $\overrightarrow{FD}$ bisects $\angle CFE$, then $m\angle CFD = m\angle DFE$. _____
6. If $\angle BFC$ and $\angle CFD$ are complementary, then $m\angle BFC + m\angle CFD = 90°$. _____

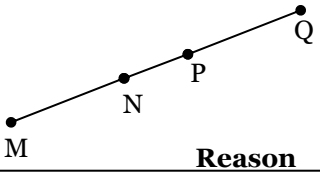
Identify the property, postulate, definition, or theorem that justifies each statement.

7. If $m\angle A + m\angle B = 180°$ and $m\angle C + m\angle D = 180°$. _____
   Then $m\angle A + m\angle B = m\angle C + m\angle D$.
8. If AB = CD and EF = GH, then AB + EF = CD + GH. _____
9. If $m\angle A + m\angle B = m\angle C + m\angle B$, then $m\angle A = m\angle C$. _____
10. If MQ = MP + PQ and MP + PQ = RS, then MQ = RS. _____

Proof 1:

Given: MP = NQ

Prove: MN = PQ

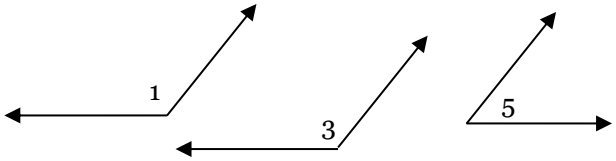


Statement	Reason
1. MP = NQ	1. _____
2. _____	2. Reflexive
3. MP = _____ + _____ NQ = _____ + _____	3. _____
4. _____	4. _____
5. _____	5. _____

Proof 2:

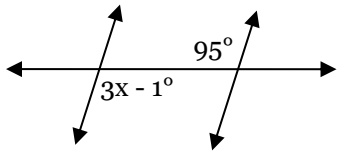
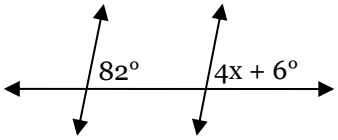
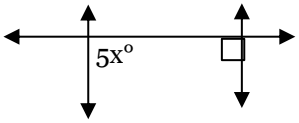
Given: $\angle 1$ and $\angle 5$ are supplementary;
$\angle 3$ and $\angle 5$ are supplementary;

Prove: $m\angle 1 = m\angle 3$



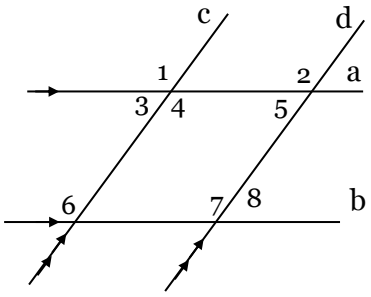
Statement	Reason
1. $\angle 1$ and $\angle 5$ are supplementary; $\angle 3$ and $\angle 5$ are supplementary	1. _____
2. _____ _____	2. _____
3. $m\angle 1 + m\angle 5 = m\angle 3 + m\angle 5$	3. _____
4. _____	4. _____
5. _____	5. _____

Unit 4 Review – Parallel Lines

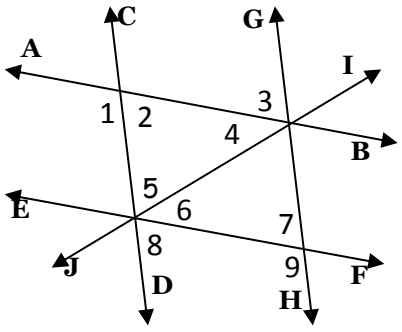
Alternate Interior ∠s	**Corresponding ∠s**	**Same-Side Interior ∠s**
When parallel lines are cut by a transversal, alternate interior angles are _____.	When parallel lines are cut by a transversal, corresponding angles are _____.	When parallel lines are cut by a transversal, same-side interior angles are _____.
		
Equation and Solution	Equation and Solution	Equation and Solution

Determine the missing angle measure for each of the following angles. Justify your answer.

1. If m∠1 = 115°, then m∠2 = _____ because if _____||_____, _____ angles are _____.
2. If m∠5 = 70°, then m∠8 = _____ because if _____||_____, _____ angles are _____.
3. If m∠4 = 120°, then m∠5 = _____ because if _____||_____, _____ angles are _____.



Using the diagram and the given information, decide if there are parallel lines. If there are, state the lines/segments that must be parallel and explain the reason why. If there are no parallel lines, write 'no parallel lines' and explain the reason why.



4. m∠3 = m∠7 _____
Explain: _____
_____

5. m∠4 = m∠6 _____
Explain: _____
_____

6. m∠2 = m∠5 + m∠6 _____
Explain: _____
_____

7. m∠8 = 90°; m∠9 = 90° _____
Explain: _____

 Per: ____ Name: _____

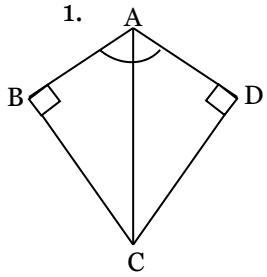
Unit 5 Review – Congruent Triangles

Mark your diagram with any other known congruent pair(s). Identify the postulate or theorem that proves triangles congruent by writing the letters in the boxes on the left (i.e. S, A, S).

State the three congruent pairs of sides or angles that justify the triangles are congruent.

State the triangle congruence.

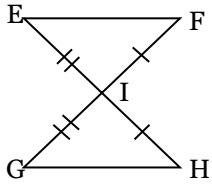
1.



	≅
	≅
	≅

Δ ABC ≅ Δ _____

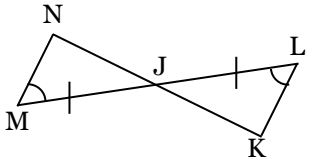
2.



	≅
	≅
	≅

Δ EFI ≅ Δ _____

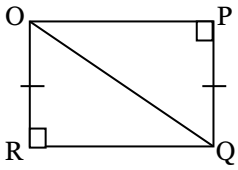
3.



	≅
	≅
	≅

Δ NMJ ≅ Δ _____

4.



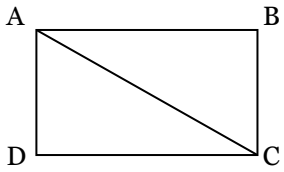
	≅
	≅
	≅

Δ ORQ ≅ Δ _____

Mark all given and known congruent parts.

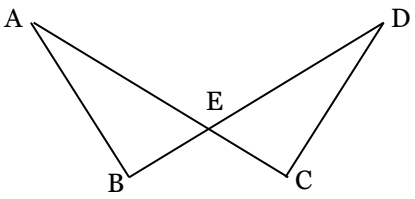
If the triangles are congruent, state the postulate or theorem that proves congruence.

5. $\overline{AB} \parallel \overline{CD}$
$\overline{AD} \cong \overline{BC}$



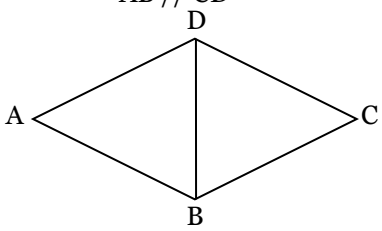
_____

6. $\angle B \cong \angle C$
$\overline{AB} \cong \overline{CD}$



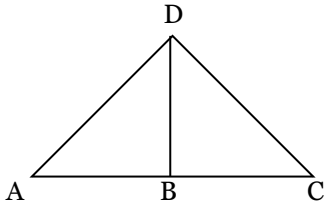
_____

7. $\overline{AB} \cong \overline{CD}$
$\overline{AB} \parallel \overline{CD}$



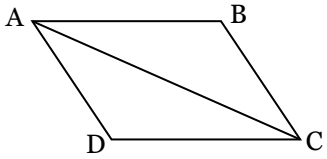
_____

8. B is the midpoint of $\overline{AC}$
$\overline{AC} \perp \overline{DB}$



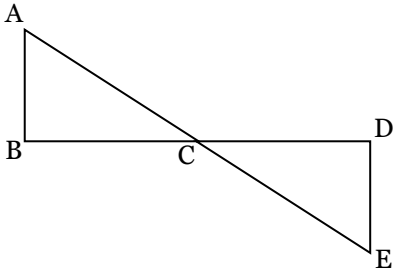
_____

9. $\overline{AB} \cong \overline{CD}$
$\overline{AD} \cong \overline{BC}$



_____

10. $\overline{AE}$ bisects $\overline{BD}$
$\overline{AB} \cong \overline{DE}$



_____

Unit 6 Review – Quadrilaterals

Fill in the following flow chart by stating the properties of each.

Quadrilateral

_____

Parallelogram ↙ ↘ **Trapezoid**

_____ _____

_____ _____

_____

_____

Rectangle ↙ ↘ **Rhombus**

_____ _____

_____ _____

_____ _____

↘ ↙

Square

_____

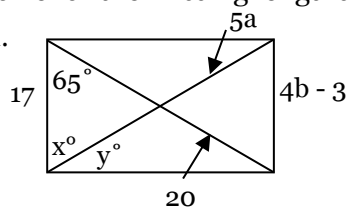
Match each shape name to the properties it has. Answers will be repeated.

[A] parallelogram [B] rectangle [C] rhombus [D] square [E] trapezoid

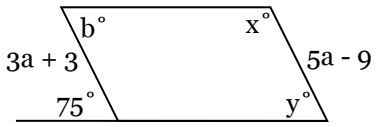
1. _____ opposite sides are congruent
2. _____ opposite angles are congruent
3. _____ diagonals are congruent
4. _____ all sides and angles are congruent
5. _____ diagonals are perpendicular
6. _____ diagonals are bisected
7. _____ angles are bisected
8. _____ all angles are right angles
9. _____ opposite sides are parallel
10. _____ not a parallelogram

Solve for the missing lengths or angle measures. Explain where your answers came from.

11.



12.



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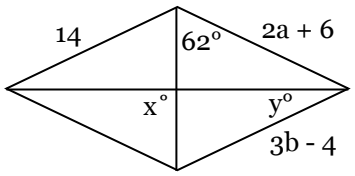

a = _____ because _____

_____

b = _____ because _____

_____

x = _____ because _____

_____

y = _____ because _____

_____

a = _____ because _____

_____

b = _____ because _____

_____

x = _____ because _____

_____

y = _____ because _____

_____

a = _____ because _____

_____

b = _____ because _____

_____

x = _____ because _____

_____

y = _____ because _____

_____