

Name: _____

Key

Teacher: _____

Date: _____

Unit 3 – TEST 3 Review

Lessons 22-27

Work every problem to the best of your ability. Show all work. Circle your answers.

1. What are the 5 methods to prove triangle congruence?

a.) SSS

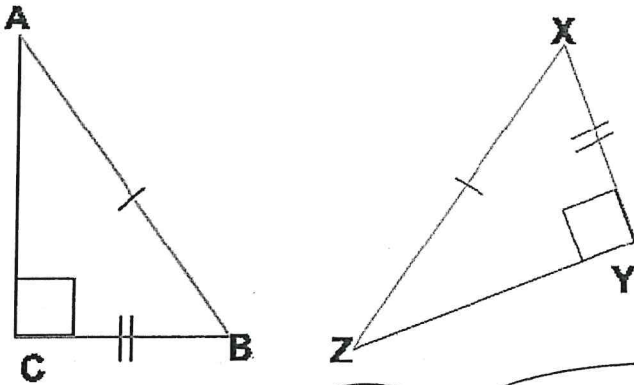
b.) SAS

c.) ASA

d.) AAS

e.) HL 90

2. Write a congruence statement (watch for correct order) for the triangles.



$\triangle ABC \cong \triangle XYZ$ - HL 90°

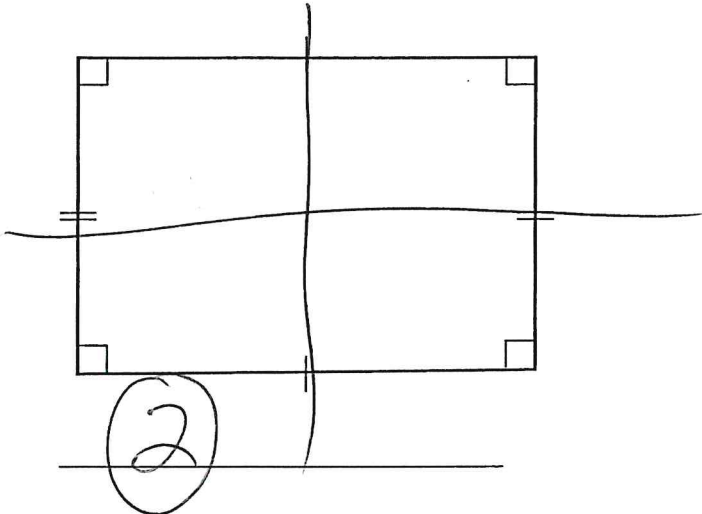
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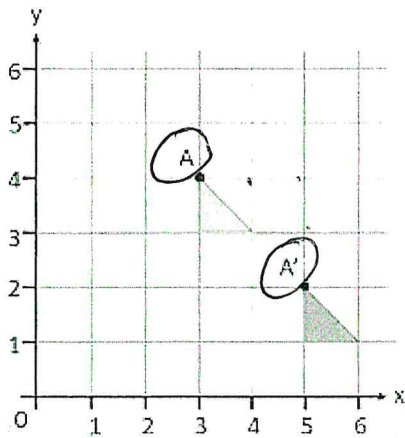
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3. How many lines of symmetry does the regular rectangle have?



Write the rule for the translation.



4.) $(x, y) \rightarrow (x + 2, y - 2)$

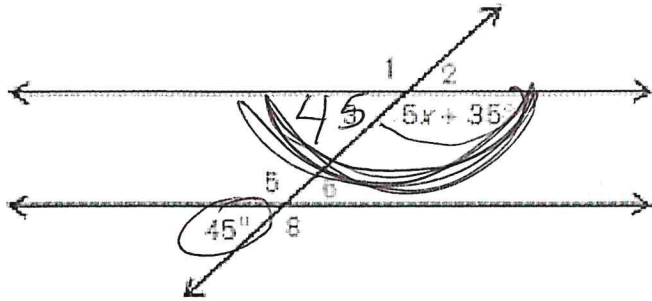
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Find the value of x



$$45 + 5x + 35 = 180$$

$$\begin{array}{r} 80 + 5x = 180 \\ -80 \end{array}$$

$$5x = 100$$

$$x = 20$$

5.) x = 20

6.)

Proof Complete the proof

GIVEN: B is the midpoint of \overline{AE} .
 B is the midpoint of \overline{CD} .

PROVE: $\triangle ABD \cong \triangle EBC$



Statements

Reasons

1. B is the midpoint of \overline{AE} .

1. given

2. $AB \cong BE$

2. Definition of midpoint

~~3. B is the midpoint of \overline{CD} .~~

~~3. midpoint~~

3. $DB \cong BC$

3. Definition of midpoint

4. $\angle ABD \cong \angle EBC$

4. Verticals

5. $\triangle ABD \cong \triangle EBC$

5. SAS

1.)

2.)

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3.)

4.)

5.)

6.) (Hint: 1 of the methods to prove triangles congruent)

SAS

~~7.~~

8. Name the property that the statement illustrates. If $\overline{AC} = \overline{AC}$

$\overline{AC} = \overline{AC}$

Reflexive

~~9.~~ not yet!

9. Name the property that statement illustrates. If $\overline{JK} = \overline{AC}$, then $\overline{AC} = \overline{JK}$

Commutative

~~10.~~

10. Name the property that the statement illustrates. If $\angle A = \angle B$, and $\angle B = \angle C$, then $\angle A = \angle C$

Transitive

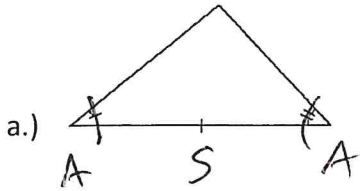
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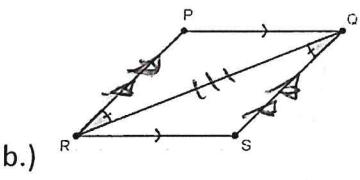
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11. For which drawing can you use the given information, and the ASA Congruence theorem, to prove that the triangles are congruent?

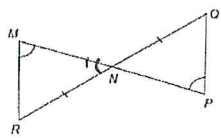


yes



yes

~~no~~
parallel lines sets



AAS no

c.)

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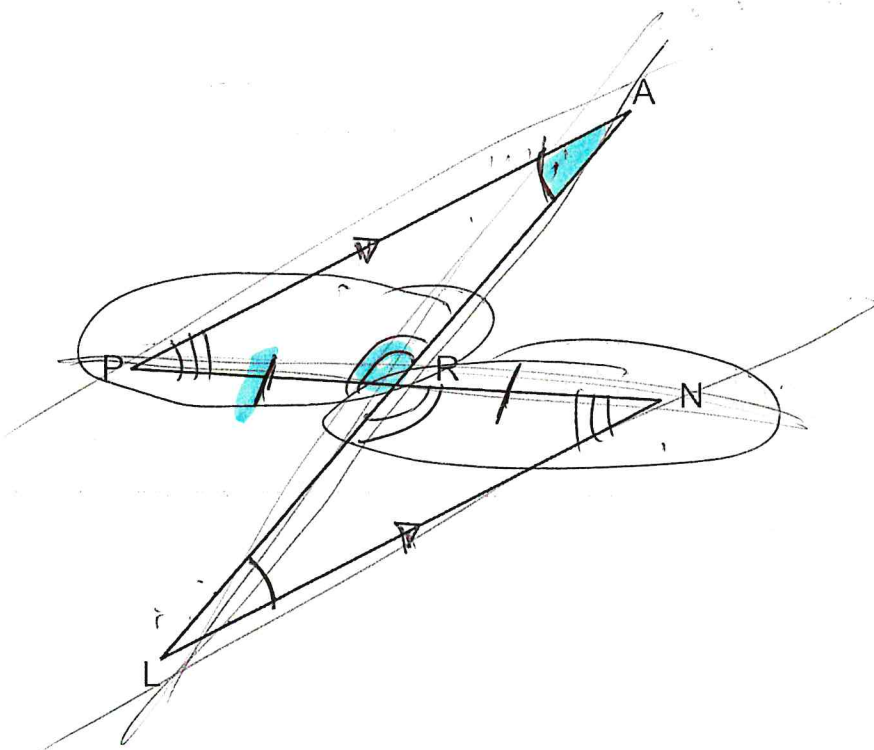
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12.) Write a 2 column Proof using the following shape. Given: $\overline{AP} \parallel \overline{LN}$, $PR = RN$

Prove: $\triangle ARP \cong \triangle LRN$



ASA
AAS

Statements	Reasons
① See Above	① Giv
A ② $\angle P \cong \angle N$	② Alt. int. \angle 's
S ③ $\overline{PR} \cong \overline{RN}$	③ corr. sides (\cong) / midpt.
A ④ $\angle PRA \cong \angle NRL$	④ Vertical \angle 's
⑤ $\triangle ARP \cong \triangle LRN$	⑤ ASA

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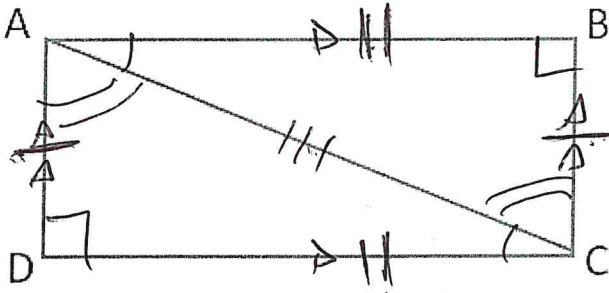
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ALL WORK!

13.) Complete the proof

Given: Quadrilateral $ABCD$ is a rectangle.

Prove: $\triangle ACD \cong \triangle CAB$



AAS

SAS

corr. alt int.

SSS

ASA

HL 90

Statements

Reasons

① See above

① Given

② $\overline{AC} \cong \overline{AC}$

② Reflexive

③ $\overline{DC} \cong \overline{AB}$

③ def. rectangle

④ $\angle ADC \cong \angle CBA$

④ perp. / Right \angle / 90°

⑤ $\triangle ACD \cong \triangle CAB$

⑤ HL 90°

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14.) Select the transformation that is not a rigid motion:

- A.) Dilations
- B.) Rotations
- C.) Translations
- D.) Reflections

Same
Shape
Same
Size

15.) What would the coordinates be for a reflection of these coordinates across the y-axis?

A(7, 13)

A'(-7, 13)

B(2, -5)

B'(-2, -5)

C(2, 1)

C'(-2, 1)

D(8, -7)

D'(-8, -7)

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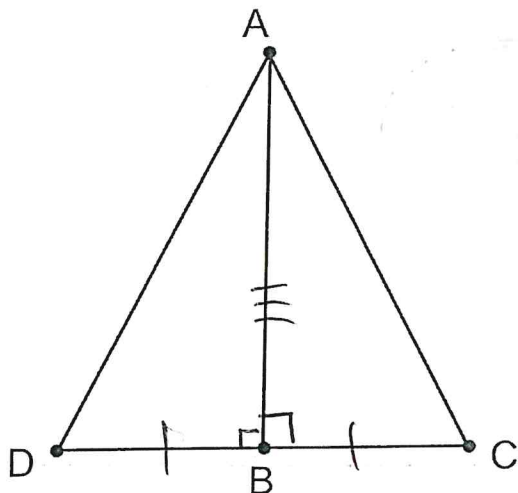
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16.) Given: \overline{AB} is a perpendicular bisector of \overline{DC} .

Prove: $\triangle ADB \cong \triangle CAD$



SAS

Statements

Reasons

① See Above

① Given

② $\overline{DB} \cong \overline{BC}$

② Bisector

③ $\angle DBA \cong \angle CBA$

③ Right \angle 's

④ $\overline{AB} \cong \overline{AB}$

④ Reflexive

⑤ $\triangle DAB \cong \triangle CAB$

⑤ SAS

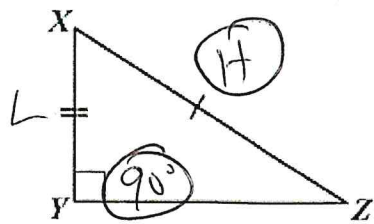
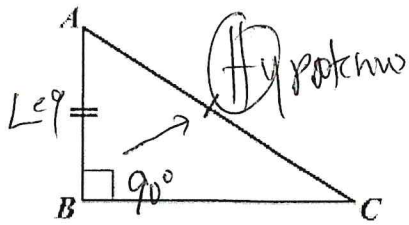
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Lessons 22-27

17.) Write a 2-column proof. Prove $\triangle ABC \cong \triangle XYZ$



HL 90°

Statements

Reasons

- ① See Above
- H ② $\overline{AC} \cong \overline{XZ}$
- L ③ $\overline{AB} \cong \overline{XY}$
- 90° ④ $\angle ABC \cong \angle XYZ$
- ⑤ $\triangle ABC \cong \triangle XYZ$

- ① Given
- ② corr. sides (\cong)
- ③ corr. sides (\cong)
- ④ Right \angle 's; 90° ;
perp.
- ⑤ HL 90°

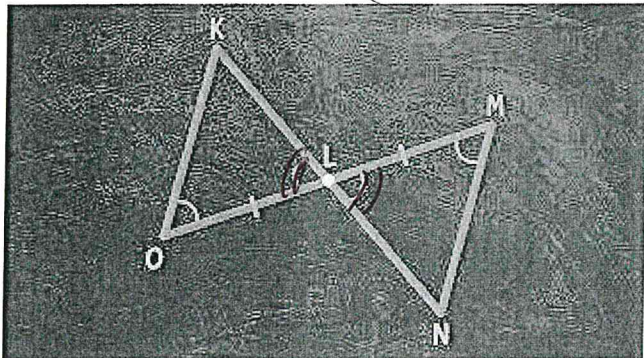
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18.) Write a 2-column proof. Prove $\triangle KLO \cong \triangle NLM$



ASA

Statements

Reasons

- ① See Above
 $\angle KOL \cong \angle NML$
- ② $\angle O \cong \angle M$
- ③ $\overline{OL} \cong \overline{LM}$
- ④ $\angle KLO \cong \angle NLM$
- ⑤ $\triangle KLO \cong \triangle NLM$

- ① Given
- ② corr. \angle s (\cong)
- ③ midpt. (L)
corr. sides (\cong)
- ④ Vertical \angle 's
- ⑤ ASA

