Kuta Software - Infinite Geometry

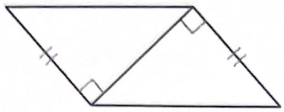
Name_____

SSS and SAS Congruence

Date_____ Period____

State if the two triangles are congruent. If they are, state how you know.

1)



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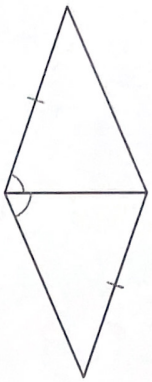

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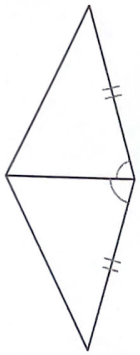

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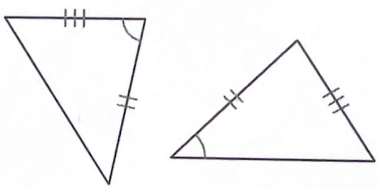

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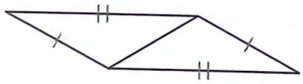

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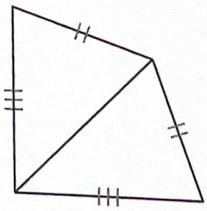

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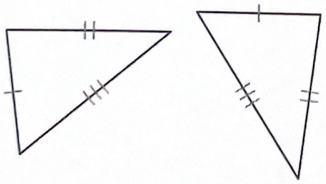

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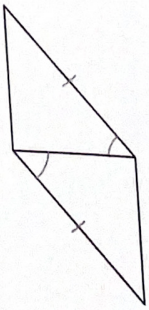

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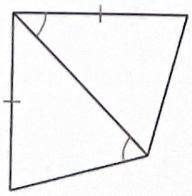

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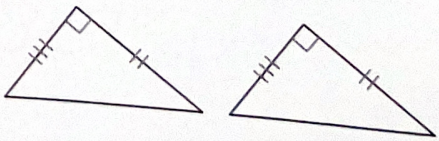
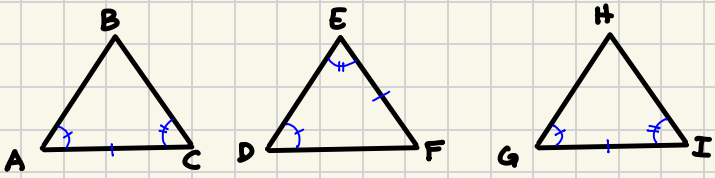
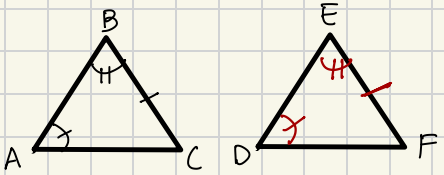


Ch.25 - ASA, AAS CONGRUENCE



$\triangle ABC \cong \triangle$ ____

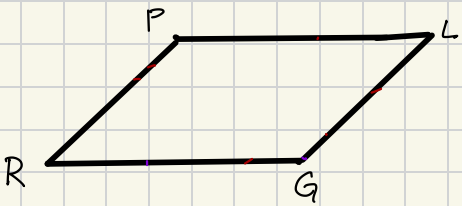


$\triangle ABC = \triangle$ ____

CPCTRC – _____

_____

AMPLIFIED PARALLELOGRAM THEOREM

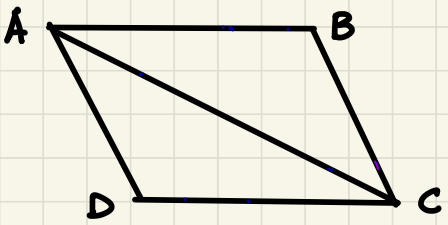


GIVEN: RPLG IS A PARALLELOGRAM

PROVE: $\overline{PR} \cong \overline{GL}$, $\overline{RG} \cong \overline{LP}$

STATEMENTS	REASONS
①	
②	
③	
④	
⑤	
⑥	
⑦	

MARK YOUR FIGURES



GIVEN: $\angle ADC \cong \angle ABC$

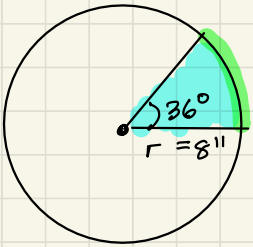
$\overline{AB} \parallel \overline{DC}$

$\overline{AB} \cong \overline{DC}$

PROVE: $\triangle ABC \cong \triangle ADC$

STATEMENTS	REASONS

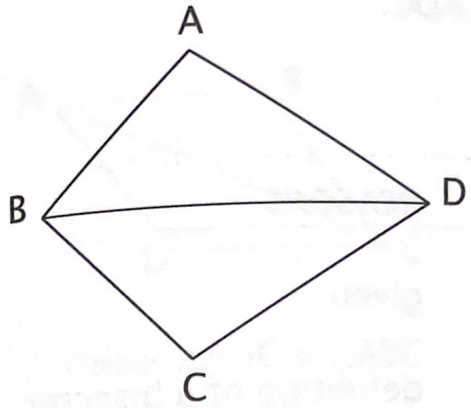
Find the length of an arc with radius of 8" and a central measure of 36°.
Find the area of the sector.



LESSON PRACTICE

25A

Complete the following proofs using ASA or AAS postulates.

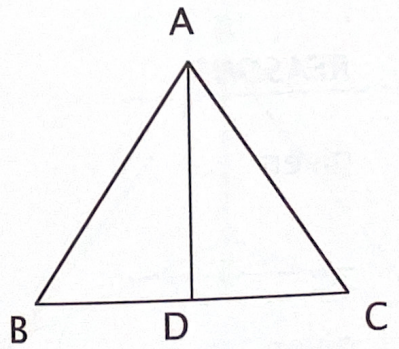


Given: $\overline{AB} \cong \overline{CB}$
$\overline{DB}$ bisects $\angle ABC$.
$\angle BAD \cong \angle BCD$

Prove: $\Delta ABD \cong \Delta CBD$

STATEMENTS	REASONS
$\overline{AB} \cong \overline{CB}$	1. _____
2. ____ ≅ ____	3. _____
4. _____	given
$\angle ABD \cong \angle CBD$	5. _____
6. ____ ≅ ____	7. _____

8. Is $\overline{AD} \cong \overline{CD}$? Why?

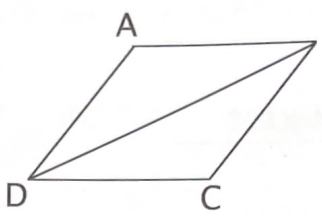


Given: $\overline{AD}$ bisects $\angle BAC$.
$\angle ABD \cong \angle ACD$

Prove: $\Delta ADB \cong \Delta ADC$

STATEMENTS	REASONS
9. ____ ≅ ____	10. _____
11. _____	given
$\angle BAD \cong \angle CAD$	12. _____
13. ____ ≅ ____	reflexive property
14. ____ ≅ ____	15. _____

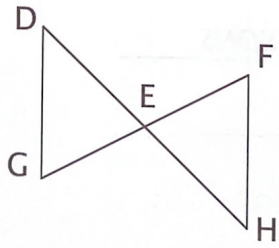
16. Is $\overline{AB} \cong \overline{AC}$? Why?



Given: $\overline{BD}$ bisects $\angle ABC$ and $\angle ADC$.

Prove: $\angle BAD \cong \angle BCD$

STATEMENTS	REASONS
17. _____	given
18. ____ ≅ ____	definition of a bisector
19. ____ ≅ ____	definition of a bisector
20. ____ ≅ ____	reflexive property
21. ____ ≅ ____	ASA postulate
22. ____ ≅ ____	CPCTRC

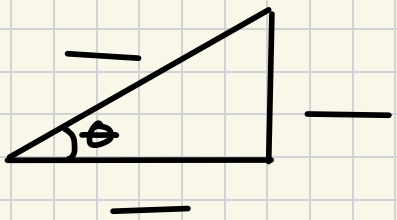


Given: E is the midpoint of $\overline{FG}$
$\overline{DG} \parallel \overline{HF}$

Prove: $\angle GDE \cong \angle FHE$

STATEMENTS	REASONS
23. _____	given
24. ____ ≅ ____	25. _____
26. ____ ∥ ____	given
27. ____ ≅ ____	alternate interior angles
28. ____ ≅ ____	vertical angles
29. ____ ≅ ____	ASA postulate
30. ____ ≅ ____	CPCTRC

REVIEW OF SOH-CAH-TOA

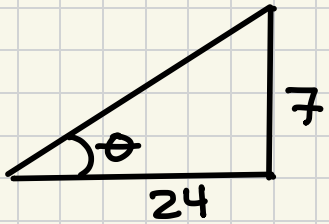


$\sin\theta =$ ____

$\cos\theta =$ ____

$\tan\theta =$ ____

$\theta =$ ____



$\sin\theta =$ ____

$\cos\theta =$ ____

$\tan\theta =$ ____

LESSON PRACTICE

Find the square root and check.

1. $\sqrt{x^2 + 12x + 36}$

2. $\sqrt{x^2 + 14x + 49}$

3. $\sqrt{4x^2 + 4x + 1}$

Divide and Check.

4. $x + 3 \overline{)\, x^2 + 10x + 21}$

5. $x + 2 \overline{)\, x^2 + 7x + 10}$

6. $x + 1 \overline{)\, x^2 + 7x + 6}$

7. $X + 3 \overline{)\, X^2 + 8X + 15}$

8. $X + 4 \overline{)\, X^2 + 9X + 20}$

9. $X - 2 \overline{)\, X^2 + X - 6}$

Challenge.

10. $X - 2 \overline{)\, X^3 - 5X^2 + 11X - 10}$

11. $X - 3 \overline{)\, X^3 + X^2 - 19X + 26}$

SYSTEMATIC REVIEW

Find the missing factor. Build if necessary.

1. $X + 1 \overline{)\ 4X^2 + 10X + 1}$

2. Check #1 by multiplication.

3. $2X + 1 \overline{)\ 4X^2 + 6X + 5}$

4. Check #3 by multiplication.

5. $X + 4 \overline{)\ X^2 + 9X + 20}$

6. Check #5 by multiplication.

Find the square's factor, or root.

7. $\sqrt{X^2 + 2X + 1} =$

8. Check #7 by multiplication.

Simplify. Write exponent solutions on one line unless otherwise directed.

9. $(X^4)^3\ (Y^2)^6\ (Y^2)(Y^0) =$

10. $\dfrac{A^5}{A^{-3}} =$

Use only positive exponents in the answer for #12.

11. $X^5 X^{-2} \div X^{-4} =$

12. $2XY^{-1} - \frac{3YY^{-2}}{X^{-1}} + 4X^{-1}Y^{-1} =$

Solve.

13. $.234 \times .21 =$

14. $540 \div .15 =$

15. $(-7)(-9) =$

16. $|\, 4 - 8 + 1 \,| =$

Add.

17. $6X^2 - 3X + 2$
$+ \quad X^2 + 5X - 1$

18. $X^2 + 4X - 8$
$+ \quad X^2 - 4X - 9$

19. What are the factors of 97?

20. Which two operations are commutative?

SYSTEMATIC REVIEW

Find the missing factor. Build if necessary.

1. $X + 1 \overline{)2X^2 - X + 10}$

2. Check #1 by multiplication.

3. $X + 3 \overline{)3X^2 + 11X + 6}$

4. Check #3 by multiplication.

5. $X + 4 \overline{)3X^2 + 10X - 9}$

6. Check #5 by multiplication.

Find the square's factor, or root.

7. $\sqrt{X^2 + 8X + 16} =$

8. Check #7 by multiplication.

Simplify. Write exponent solutions on one line unless otherwise directed.

9. $(A^5 B^7 B^3)^{-2}(A^4) =$

10. $\dfrac{B^4}{AB^{-2}} =$

11. $.586 \times 1.5 =$

12. $125 \div 2.5 =$

13. $(-7) - 9 =$

14. $|10 \div 2 - 8|$

Add.

15. $7X^2 + 4X - 1$
$\underline{- 2X^2 + 3X + 6}$

16. $X^2 + 11X + 5$
$\underline{+ X^2 - 8X - 6}$

17. What are the prime factors of 216?

18. Which two operations are associative?

19. Isaac went for a brisk 24-mile walk. Swinging his long arms, he was able to walk six miles per hour. How long did it take him to complete his journey?

20. The next day he was a mite tired. He went for the same 24-mile walk. Swinging his weary arms, he was able to walk only three miles per hour. How long did it take him to complete this journey?