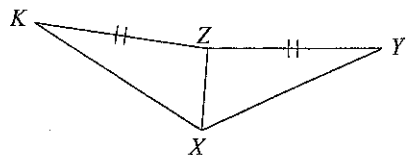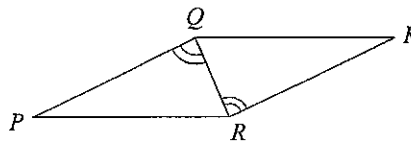# Review Test 3 - Congruent   Triangles   Date_____

State what additional information is required in order to know that the triangles are congruent for the reason given.
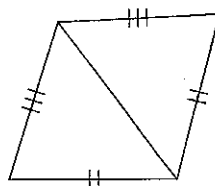
1) SSS

2) AAS

If the triangles can be shown congruent, state the rule that would show them so. If there's not enough information, then state that they're not congruent.
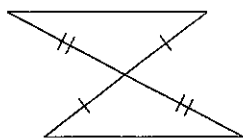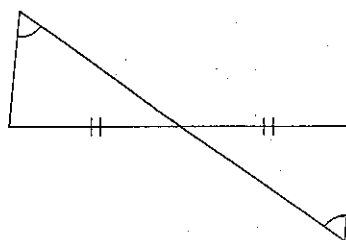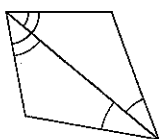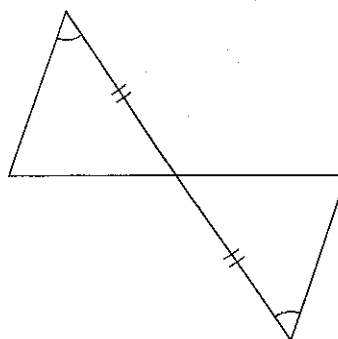
3)

4)

5)

6)

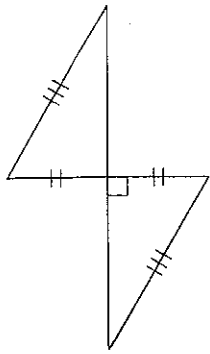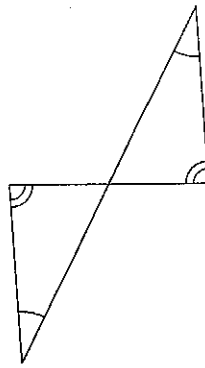7)

8)

9)

10)

Find the measure of angle A.

11)

63°

x + 46   x + 85

A

12)

x + 43   x + 53

A
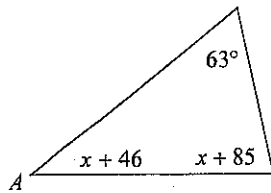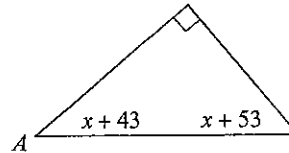
Find the measure of each angle indicated.

13)

56°

?

22°   76°

14)

65°

60°

55°   85°

?
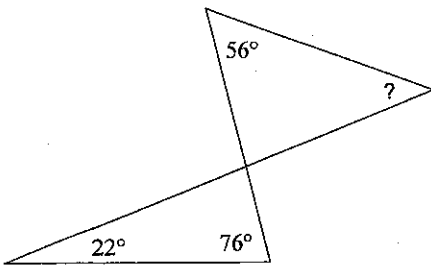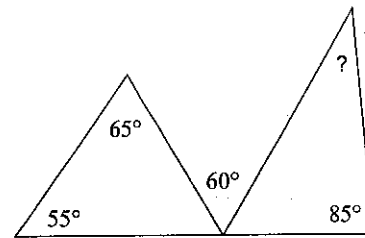
Using the Base Angles Theorem, find the value of x.

15) $m\angle 2 = 137 + x$

2

103°

16) $m\angle 2 = 13x + 3$

105°

2

17)

x + 15

8

18)

x + 18

10

-2-

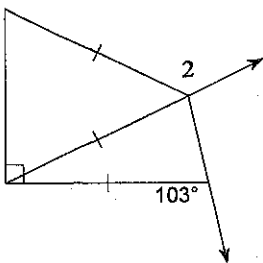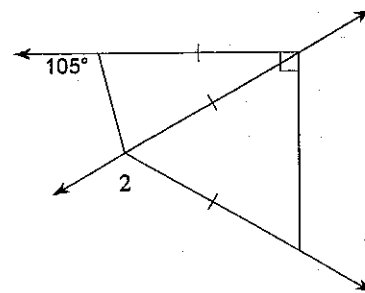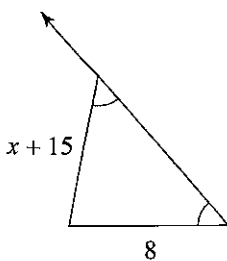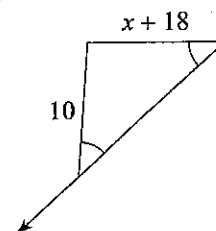19. Make sure to memorize the special segments, points of concurrency and their diagrams.

Always/Sometimes/Never?

20.   A triangle has 3 medians

21.   An obtuse triangle is congruent to an acute triangle.

22.   The base angles in an isosceles $\triangle$ are congruent.

23.   The centroid of a triangle is the same point as the circumcenter.

24.   A triangles orthocenter is on the interior of the $\triangle$.

25.   If $\triangle IPH \cong \triangle ONE$, then $\angle P \cong$ _____, and $\overline{NE} \cong$ _____.

26. $\triangle CAT \cong \triangle DOG$. CA = 14cm. DO = $2x - 4$. Find x!

27.   Find the perimeter of the $\triangle$.
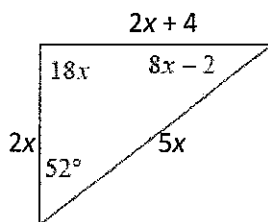
28.   Given that B, D, & F are midpoints, use the diagram at right to find the following lengths.
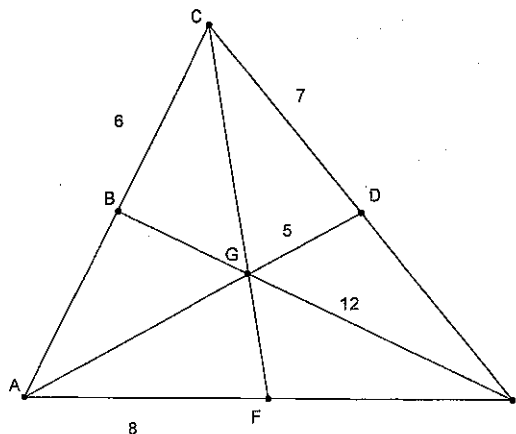
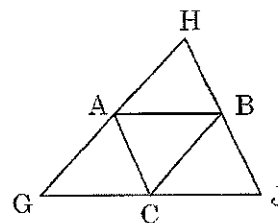AB =

CE =

BG =

AG =

AD =

Perimeter of $\triangle ACE$ =

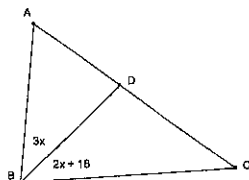Use $\triangle GHJ$, where A, B, and C are midpoints of the sides.

23) If $AB = 3x + 8$ and $GJ = 2x + 24$, what is AB?

24) If $AC = 3y - 5$ and $HJ = 4y + 2$, what is HB?

25) If $GH = 7z - 1$ and $BC = 4z - 3$, what is GH?

30.   BD is an ∠bisector. Find the measure of ∠ABC.

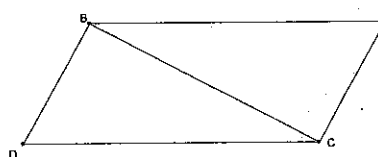**Proofs!**

31.

Given: $\overline{AB} \cong \overline{DC}$, $\overline{DB} \cong \overline{AC}$
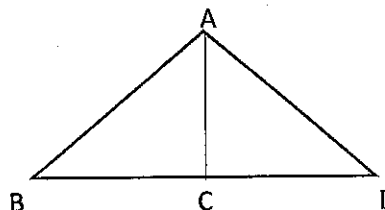
Prove: $\triangle ABD \cong \triangle DCB$

32.

Given: $\overline{AC}$ is a median, $\overline{AB} \cong \overline{AD}$

Prove: $\angle B \cong \angle D$

33. Given: $\triangle ADC$ is isosceles with base $\overline{AC}$

$\overline{DB}$ is a median

Prove: $\overline{DB}$ is an ∠ bisector