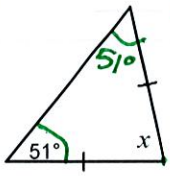
Geometry

Name Key

Unit 2 Review

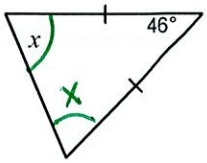
Date

Find the value of *x*.

1) 

$51 + 51 + X = 180$

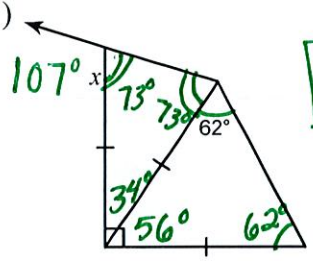
$X = 78°$

2) 

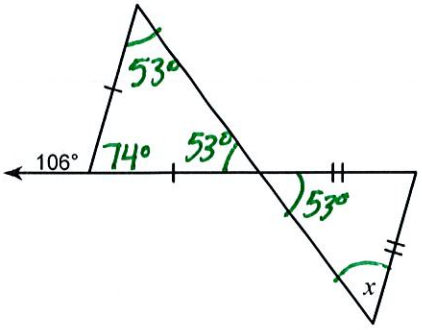
$2x + 46 = 180$

$2x = 134°$

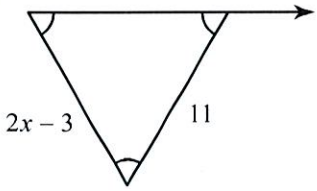
$X = 67°$

3) 

$X = 107°$

4) 

$X = 53°$

5) 

$2x - 3 = 11$

$2x = 14$

$X = 7$

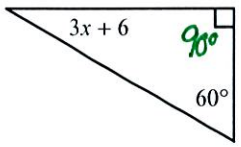
6) 

$2x - 10 = 10$

$2x = 20$

$X = 10$

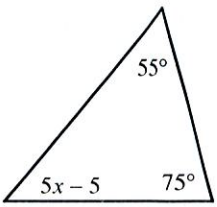
Solve for *x*.

7) 

$3x + 6 + 90 + 60 = 180$

$3x = 24$

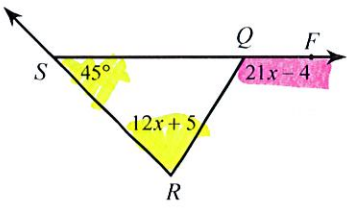
$X = 8$

8) 

$55 + 5x - 5 + 75 = 180$

$5x = 55$

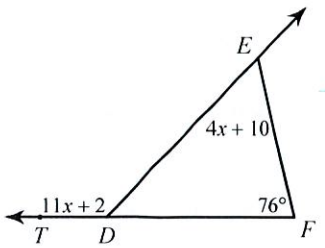
$X = 11$

9) 

$12x + 5 + 45 = 21x - 4$

$54 = 9x$

$6 = X$

10) 

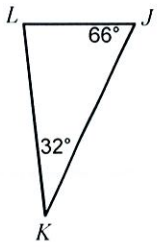
$11x + 2 = 4x + 10 + 76$

$7x = 84$

$X = 12$

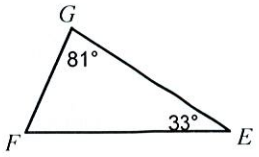
Order the sides of each triangle from shortest to longest.

11)



$\overline{JL}, \overline{KL}, \overline{JK}$

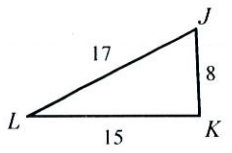
12)



$\overline{FG}, \overline{EG}, \overline{EF}$

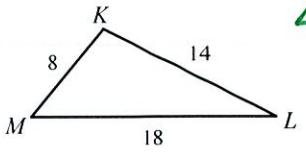
Order the angles in each triangle from smallest to largest.

13)



$\angle L, \angle J, \angle K$

14)



$\angle L, \angle M, \angle K$

State if the three numbers can be the measures of the sides of a triangle.

15) 7, 2, 7

b a c

$a + b \square c$

$2 + 7 > 7$

yes

16) 23, 10, 12

c a b

$10 + 12 < 23$

NO

Two sides of a triangle have the following measures. Find the range of possible measures for the third side.

17) 9, 11

$11 - 9 = 2$

$11 + 9 = 20$

$2 < x < 20$

18) 7, 10

$10 - 7 = 3$

$10 + 7 = 17$

$3 < x < 17$

State if the three side lengths form an acute, obtuse, or right triangle.

19) 6 m, 8 m, 10 m

a b c

$c^2 \square a^2 + b^2$

$6^2 + 8^2 \square 10^2$

$100 = 100$

Right

20) 6 ft, 8 ft, 12 ft

a b c

$c^2 \square a^2 + b^2$

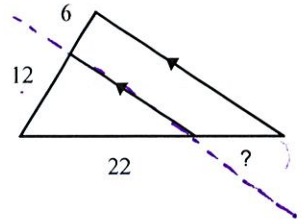
$6^2 + 8^2 \square 12^2$

$100 < 144$

OBtuse

Find the missing length indicated.

21)

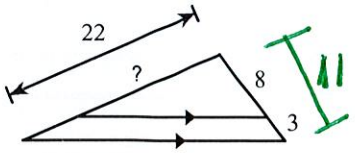


$\frac{6}{12} = \frac{x}{22}$

$12x = 132$

$x = 11$

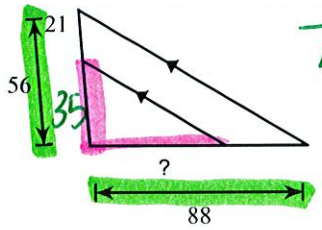
22)



$\frac{x}{22} = \frac{8}{11}$

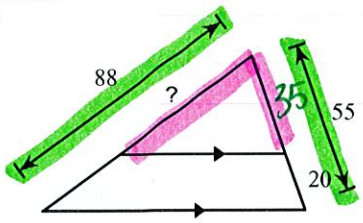
$11x = 176$

$x = 16$

23) 

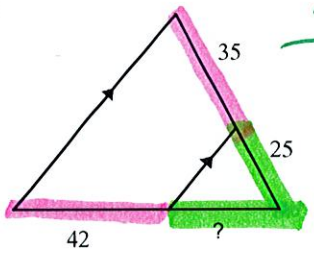
$\frac{35}{56} = \frac{X}{88}$

$X = 55$

24) 

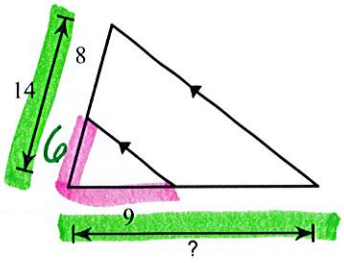
$\frac{X}{88} = \frac{35}{55}$

$X = 56$

25) 

$\frac{42}{X} = \frac{35}{25}$

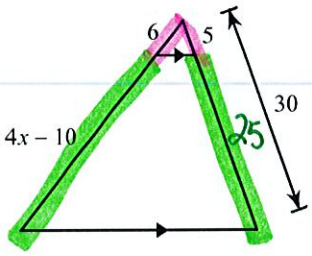
$X = 30$

26) 

$\frac{6}{14} = \frac{9}{X}$

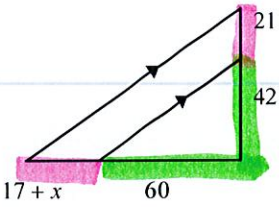
$X = 21$

Solve for *x*.

27) 

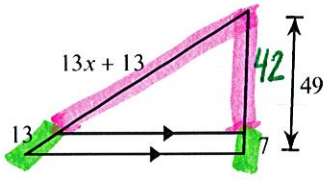
$\frac{6}{4x-10} = \frac{5}{25}$

$X = 10$

28) 

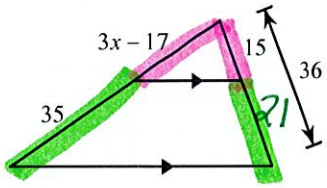
$\frac{17+x}{60} = \frac{21}{42}$

$X = 13$

29) 

$\frac{13x+13}{13} = \frac{42}{7}$

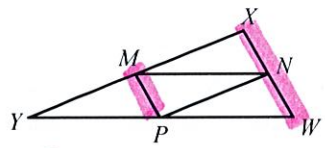
$X = 5$

30) 

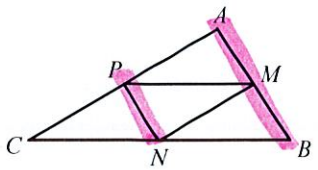
$\frac{3x-17}{35} = \frac{15}{21}$

$X = 14$

In each triangle, M, N, and P are the midpoints of the sides. Name a segment parallel to the one given.

31) 

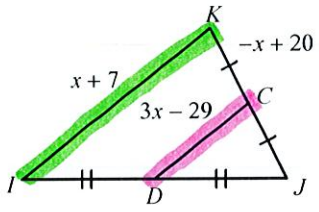
$\overline{MP} \parallel \overline{XW}$

32) 

$\overline{AB} \parallel \overline{PN}$

Solve for x.

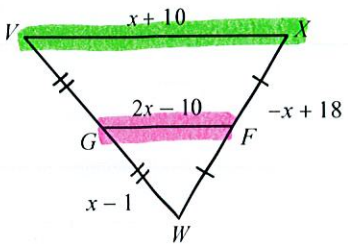
33)



$\frac{3x-29}{1} = \frac{x+7}{2}$

$x = 13$

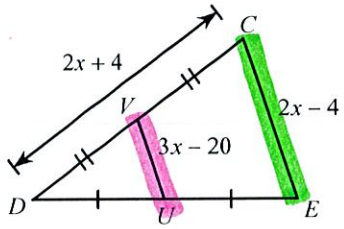
34)



$\frac{2x-10}{1} = \frac{x+10}{2}$

$x = 10$

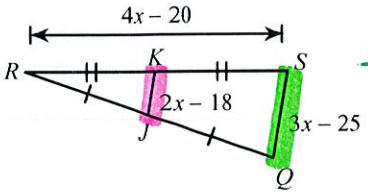
35)



$\frac{3x-20}{1} = \frac{2x-4}{2}$

$x = 9$

36)



$\frac{2x-18}{1} = \frac{3x-25}{2}$

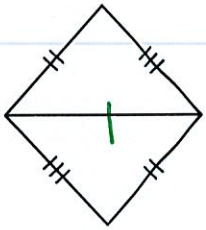
$x = 11$

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

37)

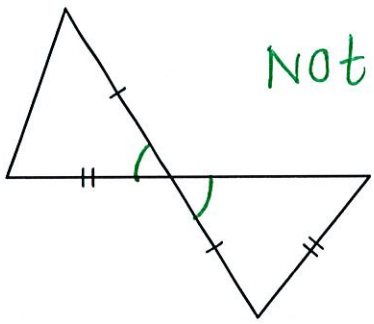
SAS

38)



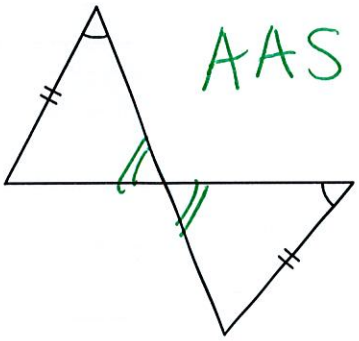
SSS

39)



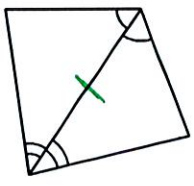
Not congruent

40)



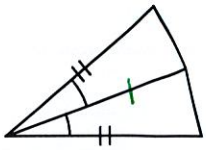
AAS

41)

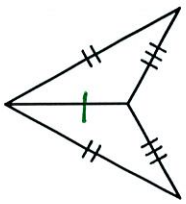


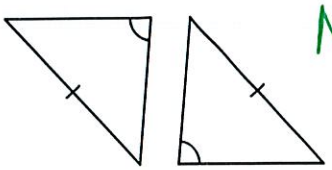
ASA

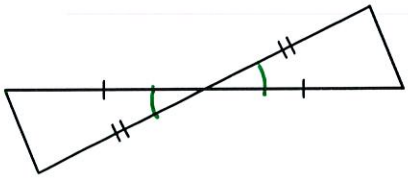
42)

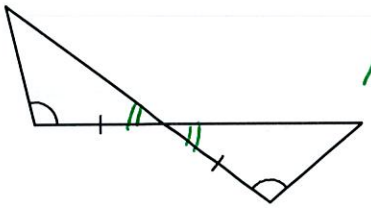


SAS

43)  SSS

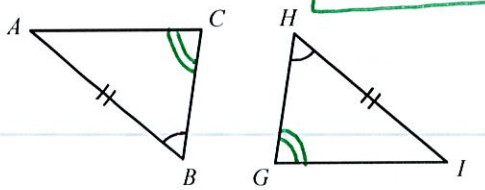
44)  Not congruent

45)  SAS

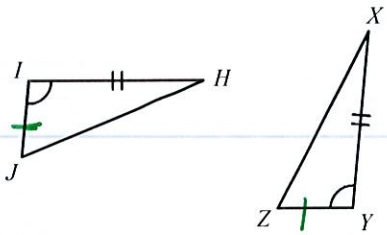
46)  ASA

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

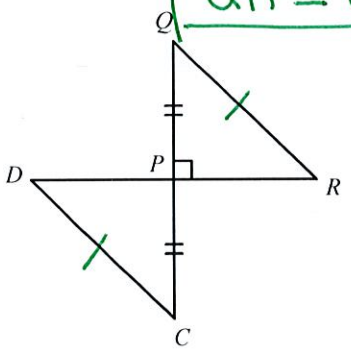
47) AAS $\angle C \cong \angle G$



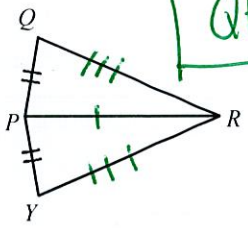
48) SAS $\overline{IJ} \cong \overline{YZ}$



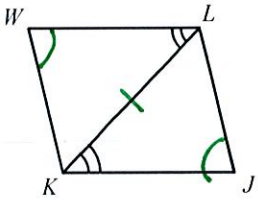
49) HL $\overline{QR} \cong \overline{CD}$



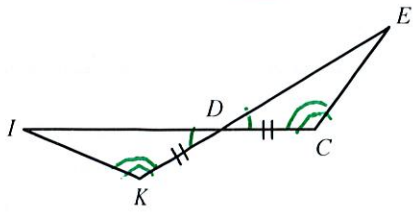
50) SSS $\overline{QR} \cong \overline{YR}$



51) AAS $\angle W \cong \angle J$



52) ASA $\angle K \cong \angle C$

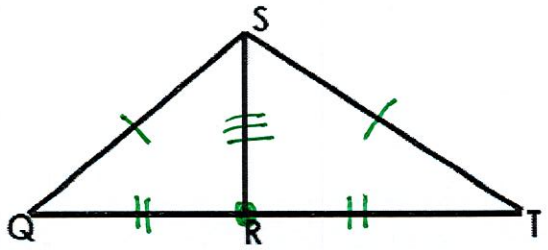


Geometry | Unit 2 – Triangles | 2.11 – Review

Name: _____ Date: _____

Given: $\overline{QS} \cong \overline{TS}$, R is the midpoint of $\overline{QT}$

prove: $\angle RQS \cong \angle RTS$



Statements	Reasons
$\overline{QS} \cong \overline{TS}$	Given
R is the mpt of $\overline{QT}$	Given
$\overline{QR} \cong \overline{TR}$	Def. of Mpt
$\overline{RS} \cong \overline{RS}$	Reflexive Property
$\triangle QRS \cong \triangle TRS$	SSS
$\angle RQS \cong \angle RTS$	CPCTC

$\overline{RS} \cong \overline{RS}$ ✓ | Reflexive Property ✓

$\overline{QS} \cong \overline{TS}$ ✓ | Given ✓ | $\angle RQS \cong \angle RTS$ ✓

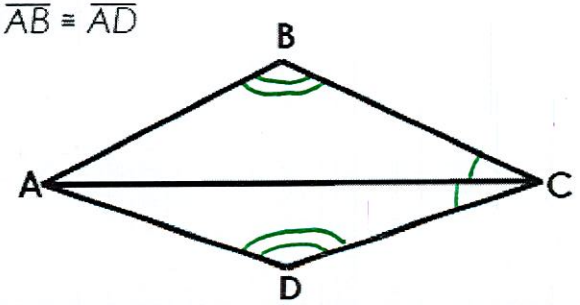
Def. of Midpoint ✓ | Given ✓

$\overline{QR} \cong \overline{TR}$ ✓ | CPCTC ✓ | SSS ✓

R is the midpoint of $\overline{QT}$ ✓ | $\triangle QRS \cong \triangle TRS$ ✓

Given: $\overline{AC}$ bisects $\angle BCD$, $\angle ABC \cong \angle ADC$

prove: $\overline{AB} \cong \overline{AD}$



Statements	Reasons
$\overline{AC}$ bisects $\angle BCD$	Given
$\angle ABC \cong \angle ADC$	Given
$\angle BCA \cong \angle DCA$	Def. of Angle Bisector
$\overline{AC} \cong \overline{AC}$	Reflexive Prop.
$\triangle ABC \cong \triangle ADC$	AAS
$\overline{AB} \cong \overline{AD}$	CPCTC

Given ✓ | $\triangle ABC \cong \triangle ADC$ ✓

$\overline{AC} \cong \overline{AC}$ ✓ | $\overline{AC}$ bisects $\angle BCD$ ✓ | $\angle ABC \cong \angle ADC$ ✓

Def. of Angle Bisector ✓ | Given ✓

$\overline{AB} \cong \overline{AD}$ ✓ | $\angle BCA \cong \angle DCA$ ✓ | AAS ✓

Reflexive Property ✓ | CPCTC ✓