

Chapter

6

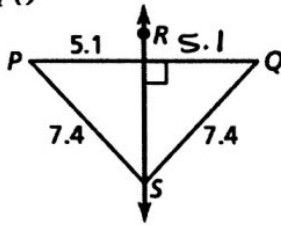
Test A

Find the measure.

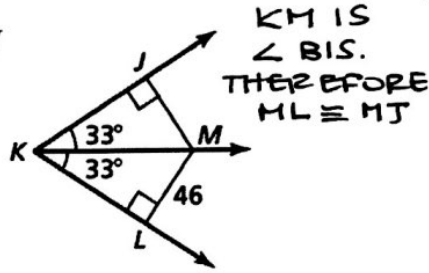
1. PO

IF $PS = QS$ THEN
 RS IS \perp BIS.
 THEREFORE
 $PR \cong RQ$

$$\begin{array}{r} 5.1 \\ \times 2 \\ \hline 10.2 \end{array}$$



2. JM



KM IS
 \angle BIS.
 THEREFORE
 $ML \cong MJ$

Answers

1. 10.2

2. 46

3. 93

4. 34

5. OMIT

Use the diagram to find the indicated angle measure.

3. Given $m\angle B = 57^\circ$, $m\angle C = 51^\circ$,
 and \overline{AD} bisects $\angle BAC$, find $m\angle ADC$.

② FIRST FIND $m\angle BAC$. $\frac{57}{2} = 28.5$
 $\frac{51}{2} = 25.5$
 $28.5 + 25.5 = 54$
 THEN HALF IT.

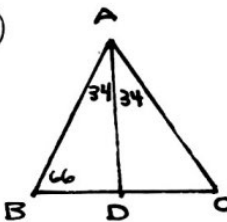
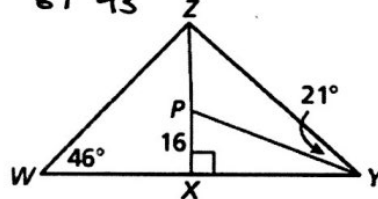
4. Given $m\angle B = 66^\circ$, $m\angle BAD = 34^\circ$,
 and \overline{AD} bisects $\angle BAC$, find $m\angle DAC$.

THEN FIND
 $\angle ADC$
 LAST

$$\begin{array}{r} 36 \\ + 151 \\ \hline 187 \end{array}$$

$$\begin{array}{r} 180 \\ - 57 \\ \hline 123 \\ \div 2 \\ \hline 61.5 \end{array}$$

5. \overline{PZ} and \overline{PY} are angle bisectors of
 $\triangle WYZ$. Find the measure of $\angle WZP$
 and the distance from P to Z .



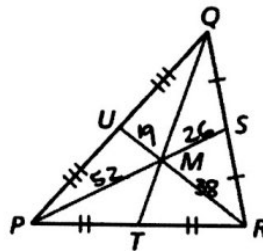
IF \overline{AD} BISECTS
 $\angle BAC$ THEN
 $m\angle DAC = m\angle BAC$

6. Find the circumcenter of $\triangle ABC$ with vertices $A(12, 0)$, $B(0, -6)$,
 and $C(0, 0)$. SEE ATTACHED FOR WORK

7. Your friend is trying to balance a triangle on the tip of his pencil. Find
 the coordinates on the centroid if the triangle has vertices of $(2, 4)$, $(10, 6)$,
 and $(12, -10)$.

8. In $\triangle PQR$, $SP = 78$, and $UM = 19$.
 Find SM , MR , and UR .

$$SP = 78 \div 3 = 26$$



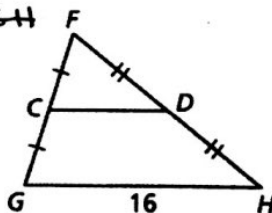
$SP, QT, \& UR$ ARE
 MEDIANS.

SMALL $\times 2 =$ LONG
 LONG $\div 2 =$ SMALL
 ENTIRE $\div 3 =$ SMALL

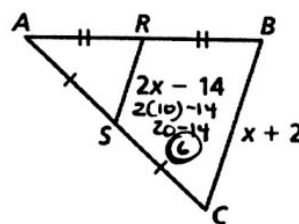
Find the missing length indicated.

9. CD

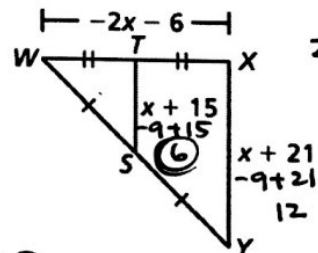
CP IS $\frac{1}{2}$ OF GH



10. SR



11. TS



$$\begin{array}{l} 2(2x - 14) = x + 2 \\ 4x - 28 = x + 2 \\ 3x = 30 \\ x = 10 \end{array}$$

$$\begin{array}{r} 2(x + 15) = x + 21 \\ 2x + 30 = x + 21 \\ -x - 30 = -x - 21 \\ \hline x = -9 \end{array}$$

Chapter 6 Test A (continued)

$$103 + 41.9 > 62.5$$

$$41.9 + 62.5 > 103$$

$$103 + 62.5 > 41.9$$

$$t+7 > 10$$

$$t+10 > 4$$

$$t+10 > 7$$

Tell whether a triangle can have sides with given lengths. Explain.

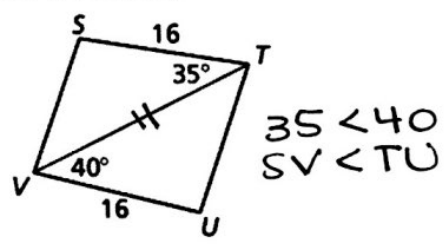
12. 4, 7, 10 13. 2, 9, 12 14. 18, 32, 14 15. 103, 41.9, 62.5
- $2+9 > 12$ $14+18 > 32$
- $11 > 12$ $103 + 41.9 > 62.5$
- \times ACTUALLY = 32

List the angles of $\triangle JKL$ in order from least to greatest.

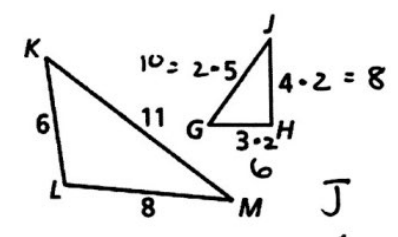
16. $J(-3, -2), K(3, 6), L(8, -2)$ 17. $J(10, -4), K(5, 3), L(2, -8)$

Compare the given measures.

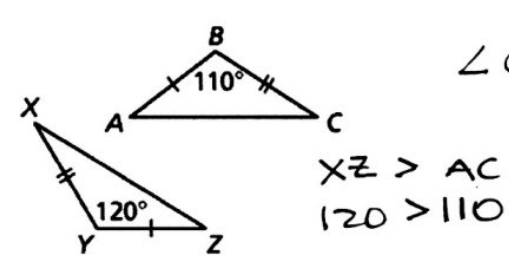
18. TU and SV



19. $m\angle GHJ$ and $m\angle KLM$



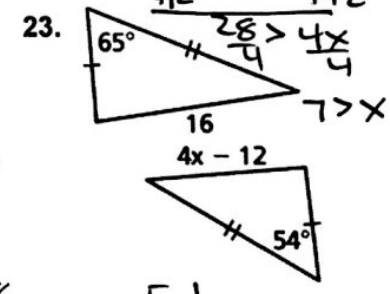
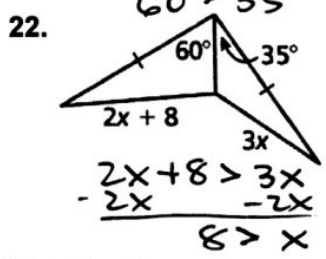
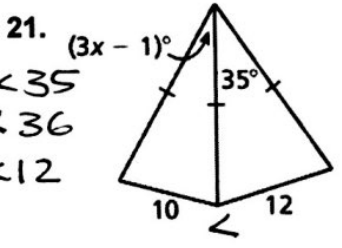
20. AC and XZ



Answers

12. yes
see left
13. NO
 $11 \not> 12$
14. NO
 $14 + 18 \not> 32$
15. yes
see above
16. $\angle J, \angle L, \angle K$
17. $\angle L, \angle K, \angle J$
18. $SV < TU$
19. $\angle GHJ < \angle KLM$
20. $AC < XZ$
21. $x < 12$
22. $x < 8$
23. $x < 7$
24. $<$
25. $>$
26. $<$
27. $=$

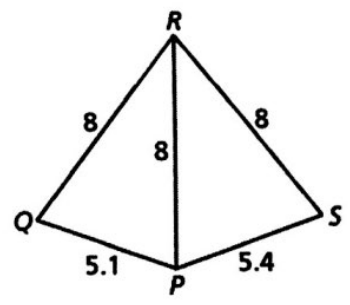
Write and solve an inequality for the possible values of x .



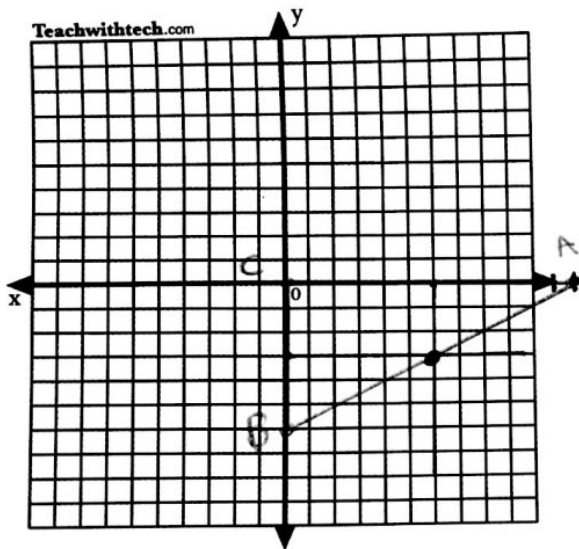
Complete the statement with $<$, $>$, or $=$.

24. $m\angle QRP$ $<$ $m\angle SRP$
26. $m\angle PRS$ $>$ $m\angle RSP$

25. $m\angle QPR$ $>$ $m\angle QRP$
27. $m\angle RSP$ $=$ $m\angle RPS$

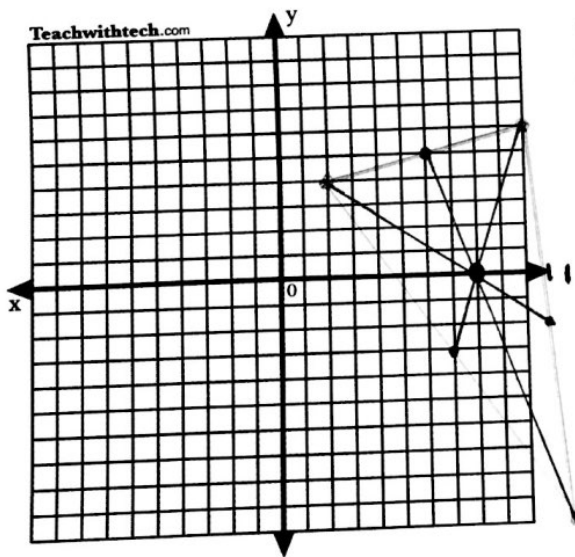


6



PLOT ORDERED PAIRS &
DRAW PERP. BISECTORS

7

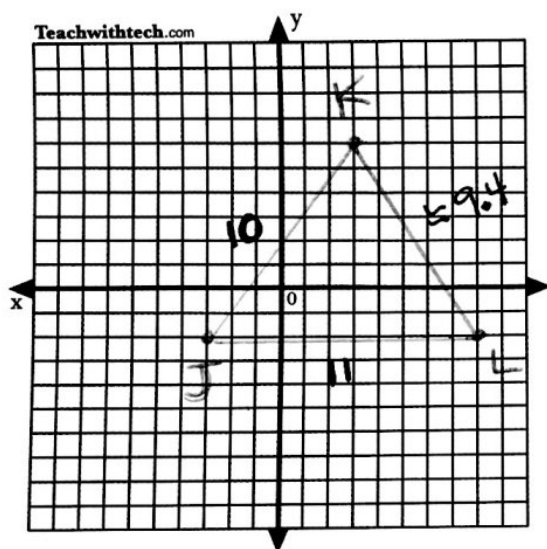


FIND MIDPOINTS OF EACH
SEGMENT

$2, 4$	$10, 6$	$12, -10$
$+10, 6$	$+12, -10$	$2, 4$
$\frac{12, 10}{2 \quad 2}$	$\frac{22, -4}{2 \quad 2}$	$\frac{14, -6}{2 \quad 2}$
$(6, 5)$	$(11, -2)$	$(7, -3)$

PLOT MIDPOINTS & CONNECT
TO OPPOSITE VERTEX

16



$$\overline{JL} = 11$$

$$\begin{aligned} \overline{KL} &= \sqrt{(8-3)^2 + (-2-6)^2} \\ &= \sqrt{5^2 + (-8)^2} \\ &= \sqrt{25+64} \\ &= \sqrt{89} \approx 9.4 \end{aligned}$$

$$\begin{aligned} \overline{KJ} &= \sqrt{(3--3)^2 + (6--2)^2} \\ &= \sqrt{(6)^2 + (8)^2} \\ &= \sqrt{36+64} \\ &= \sqrt{100} = 10 \end{aligned}$$

$$\overline{KL} = 9.4 \text{ across from } \angle J$$

$$\overline{KJ} = 10$$

$\angle L$

$$\overline{JL} = 11$$

$\angle K$

17
$$\overline{JK} = \sqrt{(5-10)^2 + (3--4)^2} = \sqrt{(-5)^2 + (7)^2} = \sqrt{25+49} = \sqrt{74} = 8.6$$

$$\overline{KL} = \sqrt{(2-5)^2 + (-8-3)^2} = \sqrt{(-3)^2 + (-11)^2} = \sqrt{9+121} = \sqrt{130} = 11.4$$

$$\overline{LJ} = \sqrt{(2-10)^2 + (-8--4)^2} = \sqrt{(-8)^2 + (-4)^2} = \sqrt{64+16} = \sqrt{80} = 8.9$$

8.6, 8.9, 11.4
 $\angle L, \angle K, \angle J$