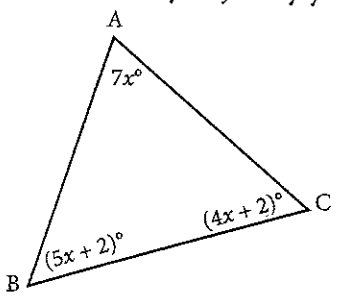
15. $\triangle PRT$ is an isosceles triangle. The measure of $\angle P$ is $(2x + 1)°$. The other two angles each measure 42°. Lonnie's work solving for $m\angle P$ is at the right. Show another way to find $m\angle P$.

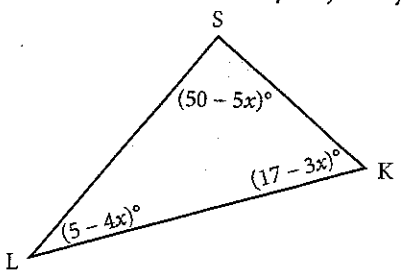
Lonnie's Work

$m\angle P + 42 + 42 = 180$
$m\angle P + 84 = 180$
$m\angle P = 96°$

16. Jeff determined that the value of x in the triangle below is 11. Is his answer correct? Show all work necessary to justify your answer.



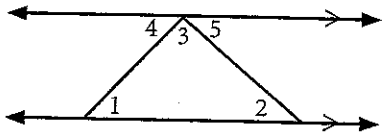
17. Siena determined that $x = -8$ in the triangle below. Is she correct? Show all work necessary to justify your answer.



18. Keisha placed a triangle between two parallel lines. She noticed $m\angle 1 = m\angle 4$ and $m\angle 2 = m\angle 5$. She also noticed $m\angle 4 + m\angle 3 + m\angle 5 = 180°$. Using substitution, these facts meant $m\angle 1 + m\angle 3 + m\angle 2 = 180°$. Keisha's reasoning correctly shows the angles inside a triangle have a sum of 180°.

a. Why does $m\angle 1 = m\angle 4$ and $m\angle 2 = m\angle 5$?

b. Why does $m\angle 4 + m\angle 3 + m\angle 5 = 180°$?



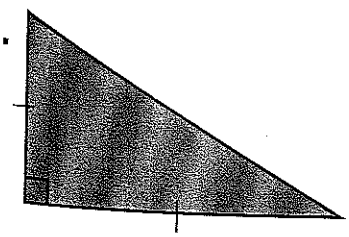
19. One angle of a triangle measures 40°. Which pairs of angle measures below could be the measures for the remaining two angles in the triangle? Write all pairs of measures that apply.

100° and 40° 90° and 60° 30° and 110° 25° and 125° 60° and 80°

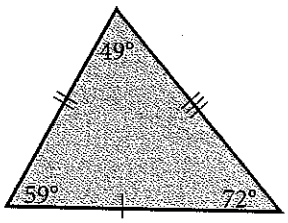
REVIEW

Classify each triangle by its sides and angles.

20.



21.



22.

Fill in each blank with the appropriate word or number.

23. Same-side interior angles add to _____ degrees when between parallel lines.

24. Alternate interior angles are _____ to each other when between parallel lines.

25. A _____ is the line that cuts through a set of lines.

26. Complementary angles add up to _____ degrees.