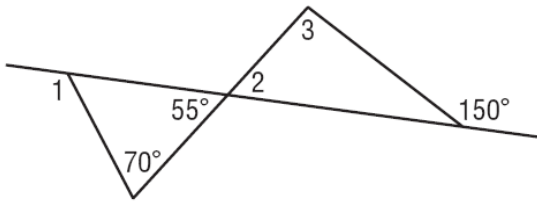


5.2 ~ Properties of Triangles

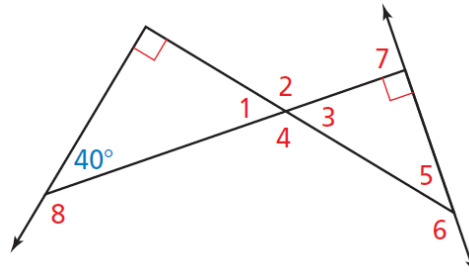
DO NOT ASSUME THAT ANY OF THE TRIANGLES HAVE BEEN DRAWN TO SCALE.

Find the measures of the numbered angles.

1.

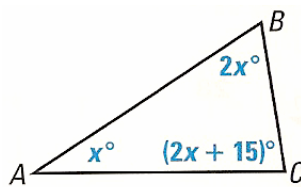


2.

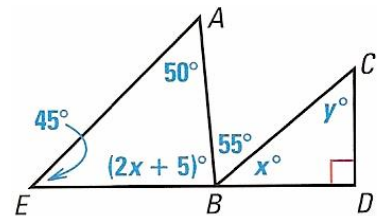


Problems 3 – 7: Use the Triangle Sum Theorem

3. Find x .

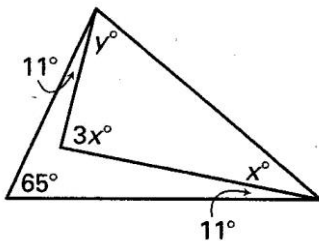


4. Find x and y .

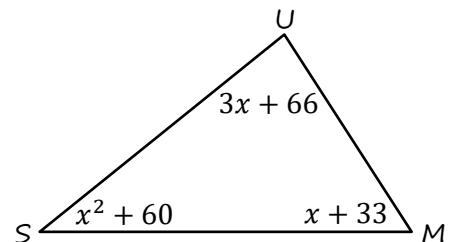


5. A triangle has angle measures of $2x + 10$, $4x$, and $5x + 5$. Find the value of x . Then find the three angle measures.

6. Use a system of equations to find the values of x and u .

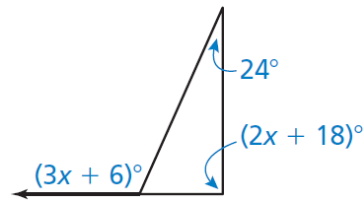


7. Given: $\triangle SUM$ is acute & scalene
 Find the value of x (that makes sense).
 Find the measure of each angle and list the sides of $\triangle SUM$ in order from shortest to longest.

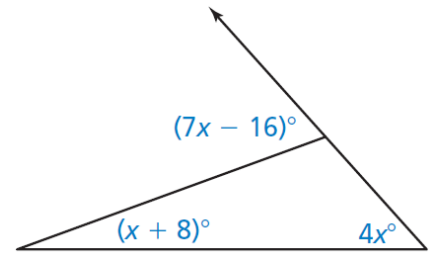


Problems 8 – 11: Use the Triangle Exterior Angle Theorem

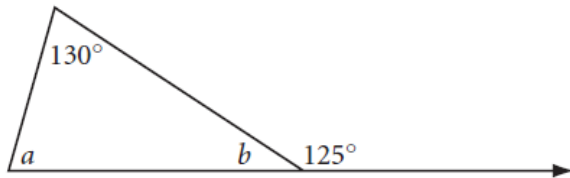
8. Find x .



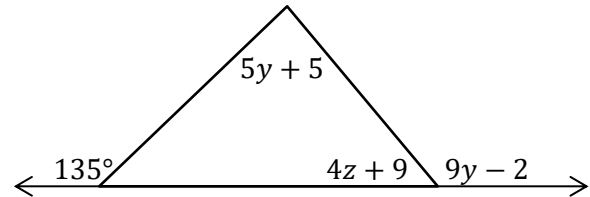
9. Find x .



10. Explain what is wrong with the diagram below.



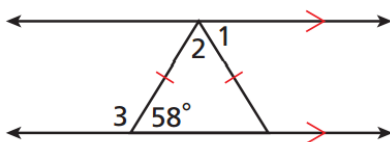
11. Find the values of y and z .



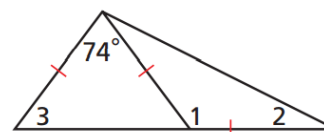
Problems 12 – 18: Use the Isosceles Triangle Base Angles Theorem & its Converse

Find the measure of each numbered angle in the isosceles triangles.

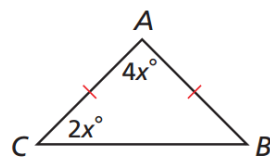
12.



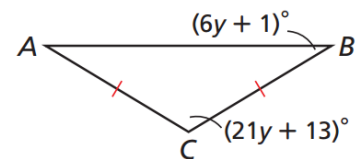
13.



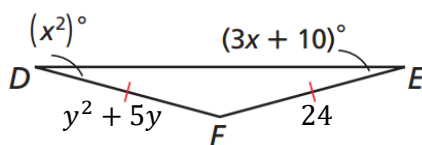
14. Find x .



15. Find y .



16. Find x and y .



17. Find y .

