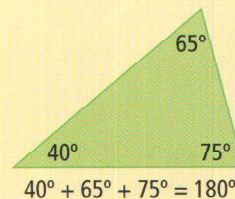


10.10 - Questions Handout #s 4, 5, 7, 8 & 11 - 21

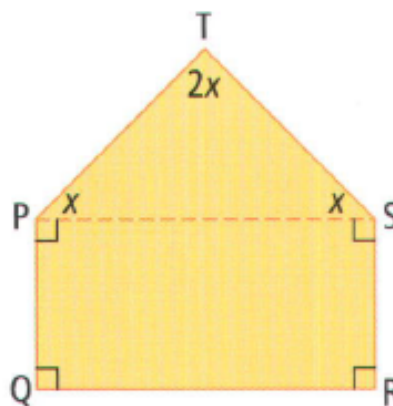
Key Ideas

- The measures of the internal angles in a triangle add to 180° .
- You can use the sum of the internal angles to find unknown angle measures in triangles.



21. Home plate on a baseball diamond is in the shape of an irregular pentagon, as shown in the diagram.

What are the five internal angles on home plate?



Check Your Understanding

Practise

For help with questions 4 and 5, refer to Example 1.

4. What is the unknown angle measure in each triangle?

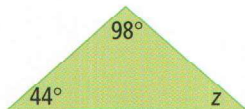
a)



b)



c)



5. The measures of two angles in a triangle are given. What is the measure of the third angle?

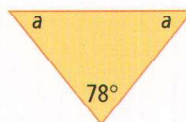
- 49° and 62°
- 57° and 112°
- 39° and 39°

6. Write a question like one of the parts of question 4 or question 5. Have a classmate answer your question.

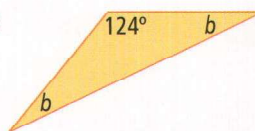
For help with questions 7 and 8, refer to Example 2.

7. What are the unknown angle measures in each isosceles triangle?

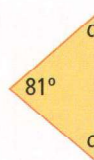
a)



b)



c)



8. The measure of one angle in an isosceles triangle is given. The other two angles are equal. What is the measure of each equal angle?

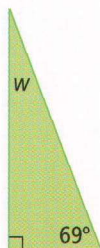
- a) 36°
- b) 88°
- c) 155°

9. Write a question like one of the parts of question 7 or question 8. Have a classmate answer your question.

10. a) Draw a large scalene triangle. Estimate the measure of each angle.
 b) Add your three estimates. Compare the result with the expected sum.
 c) Repeat parts a) and b) for other triangles to improve your estimation skills.

Apply

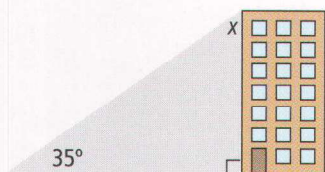
11. Find the unknown angle measure in the triangle.



12. Two angles in a right triangle are equal. Find the measure of each equal angle.

13. A triangle has three equal angles. What are their measures?

14. A building casts a shadow on a sunny day.

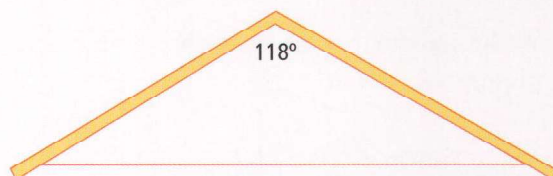


- a) Use the diagram to find the measure of the unknown angle x .
- b) What happens to the angles in the triangle as the sun climbs higher in the sky?

15. Can two angles in a triangle each measure 95° ? Explain.

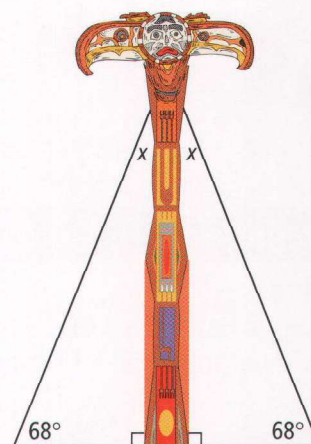
16. How many acute angles can a triangle have? Explain.

17. Part of the roof of a house looks like a triangle. The angle at the top is 118° , as shown in the diagram. The other two angles are equal. Find each of these angles.



18. The angles in a triangle have measures of x , $2x$, and $3x$ degrees. Find the values of the angle measures.

19. A totem pole is supported by two wires. Each wire makes a 68° angle with the ground. Find the unknown angle in each triangle.



20. Two triangles have different sizes. Each triangle has a 60° angle and an 80° angle. What can you conclude about the two triangles? Explain.