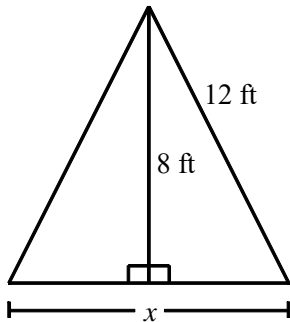


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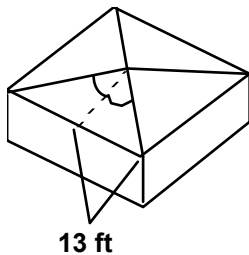
1. An isosceles triangle has two equal sides. Suppose the smallest side of such a triangle is 69 centimeters. Find all possible values for the length of the two other sides if the perimeter is at least 532 centimeters.

2. An isosceles triangle has a perimeter of 22 inches. The two equal sides are each 2 inches longer than the third side. How long is the third side?

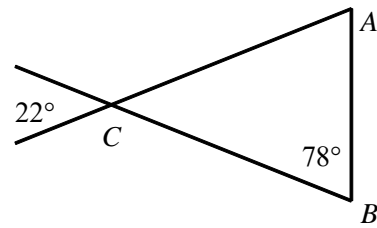
3. Use any problem solving strategy to solve the following problem. The opening of a tent is shown below. How wide is the opening of the bottom? Write your answer in the simplest radical form and as a decimal rounded to the nearest tenth.



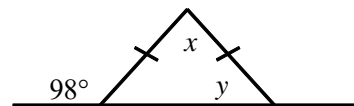
4. A roof consists of four congruent isosceles triangles. Find the number of feet of gutter that will be needed for the roof shown.



5. True or False:  $\triangle ABC$  is isosceles.

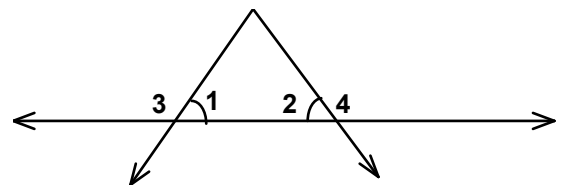


6. Find the values of  $x$  and  $y$ .



- [A]  $x = 16^\circ$ ;  $y = 82^\circ$   
 [B]  $x = 82^\circ$ ;  $y = 98^\circ$   
 [C]  $x = 16^\circ$ ;  $y = 98^\circ$   
 [D]  $x = 82^\circ$ ;  $y = 62^\circ$

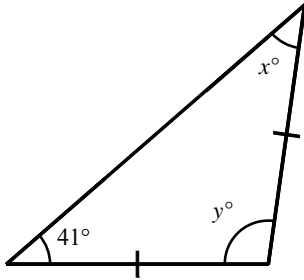
7. Suppose that  $\angle 1 \cong \angle 2$ ,  $m\angle 3 = 4x + 30$ , and  $m\angle 4 = 7x - 3$ . Find the value of  $x$ .



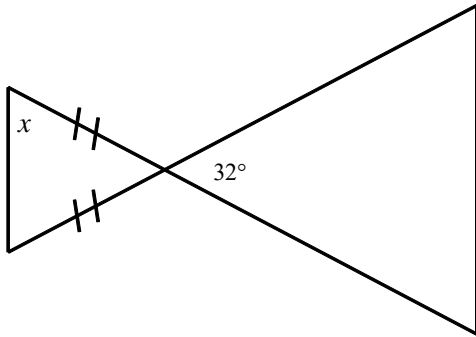
- [A] 103      [B] 11      [C] 74  
 [D] 45      [E] 15

NAME: \_\_\_\_\_

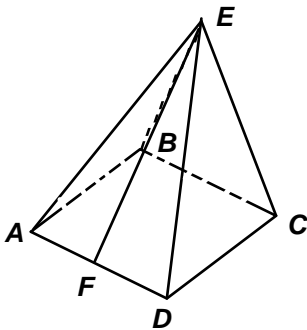
8. Find  $x$  and  $y$ .



9. Find the value of  $x$ . (The triangle is not drawn to scale.)



10. A square pyramid has a square base and lateral faces that are isosceles triangles.  $\overline{EF}$  bisects  $\overline{AD}$ . If  $m\angle FED = 25$ , find  $m\angle ECD$ .



[1] both  $\geq 231.5$  cm \_\_\_\_\_

[2] 6 in. \_\_\_\_\_

[3]  $8\sqrt{5} \approx 17.9$  ft \_\_\_\_\_

[4] 104 ft \_\_\_\_\_

[5] false \_\_\_\_\_

[6] A \_\_\_\_\_

[7] B \_\_\_\_\_

[8]  $x = 41$   
 $y = 98$  \_\_\_\_\_

[9]  $74^\circ$  \_\_\_\_\_

[10]  $65^\circ$  \_\_\_\_\_