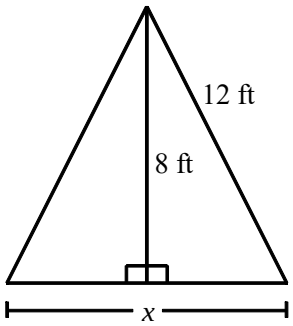
NAME:_____

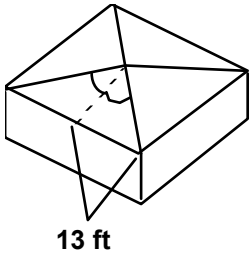
1. An isosceles triangle has two equal sides. Suppose the smallest side of such a triangle is 69 centimeters. Find all possible values for the length of the two other sides if the perimeter is at least 532 centimeters.

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?

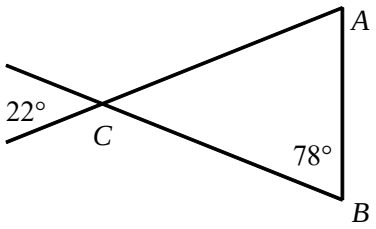
3. Use any problem solving strategy to solve the following problem. The opening of a tent is shown below. How wide is the opening of the bottom? Write your answer in the simplest radical form and as a decimal rounded to the nearest tenth.



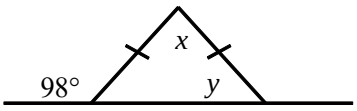
4. A roof consists of four congruent isosceles triangles. Find the number of feet of gutter that will be needed for the roof shown.



5. True or False: ΔABC is isosceles.



6. Find the values of x and y.



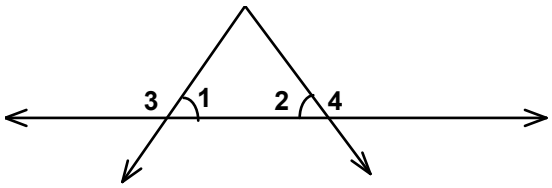
[A] $x = 16°;\ y = 82°$

[B] $x = 82°;\ y = 98°$

[C] $x = 16°;\ y = 98°$

[D] $x = 82°;\ y = 62°$

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

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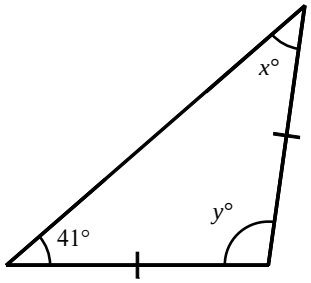
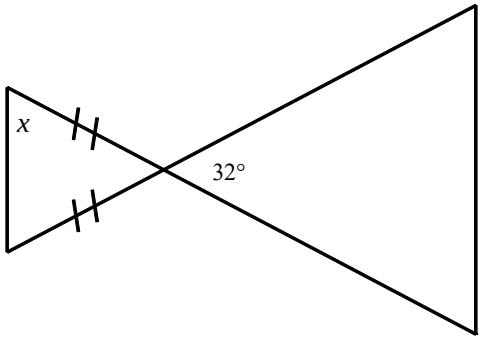
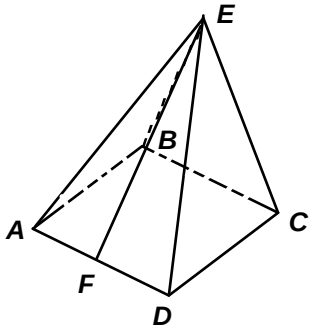
8. Find x and y.



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 ≥ 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°

[10] 65°