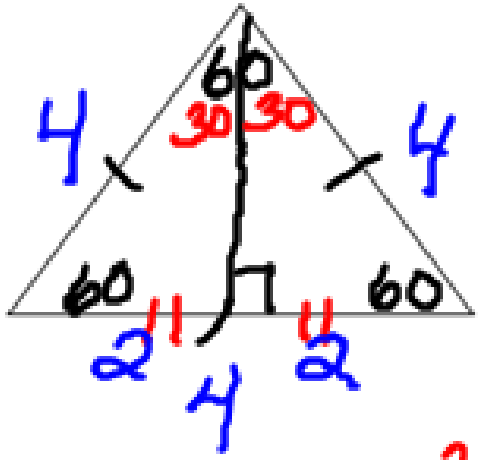
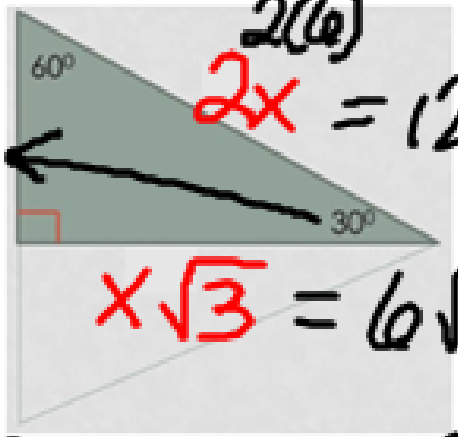




$2(6)$

$2x = 12$

$6 = x$

$x\sqrt{3} = 6\sqrt{3}$

$6^2 + b^2 = 12^2$

$36 + b^2 = 144$

$-36 \quad -36$

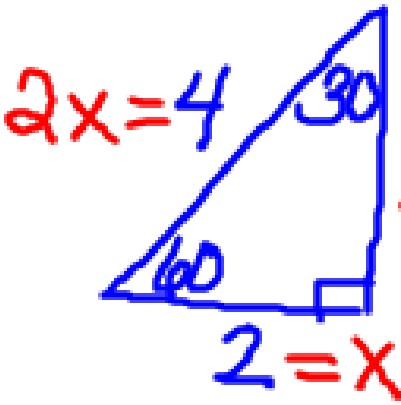
$\sqrt{b^2} = \sqrt{108}$

$\sqrt{4}\ \sqrt{27}$

$2\ \sqrt{3}\ \sqrt{9}$

3

$b = 6\sqrt{3}$



$a^2 + b^2 = 4^2$

$4 + b^2 = 16$

$-4 \quad -4$

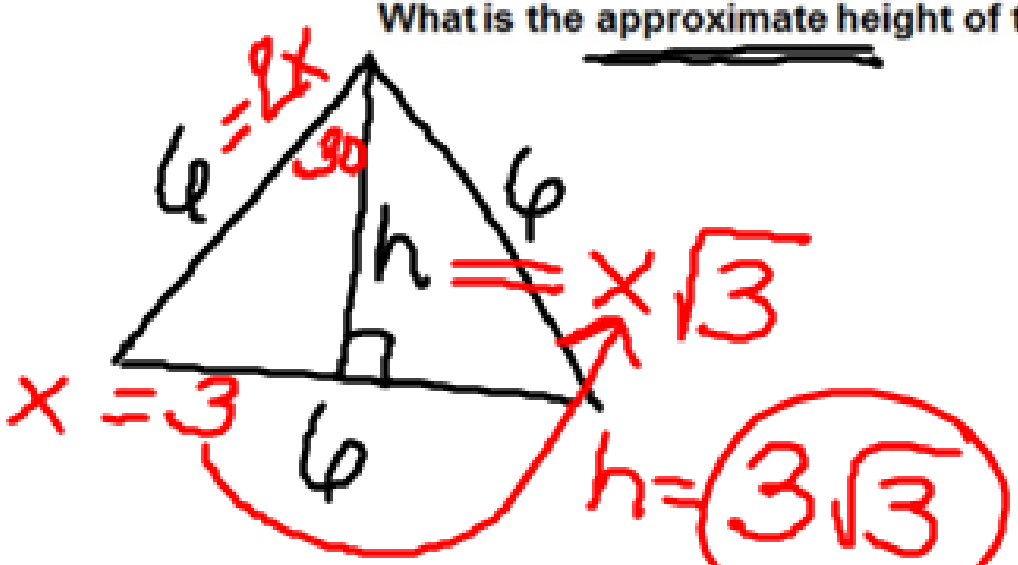
$\sqrt{b^2} = \sqrt{12}$

$\sqrt{12}\ \sqrt{4}\ \sqrt{3}$

$\sqrt{12}\ \sqrt{3}$

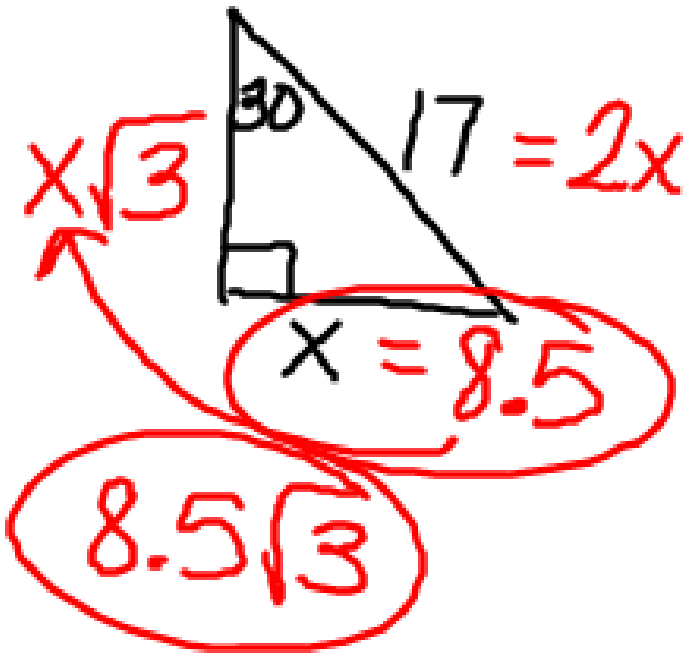
$b = 2\sqrt{3}$

Logo The logo on a recycling bin resembles an equilateral triangle with side lengths of 6 centimeters. What is the approximate height of the logo?

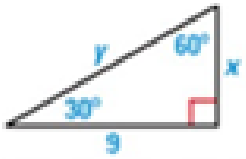


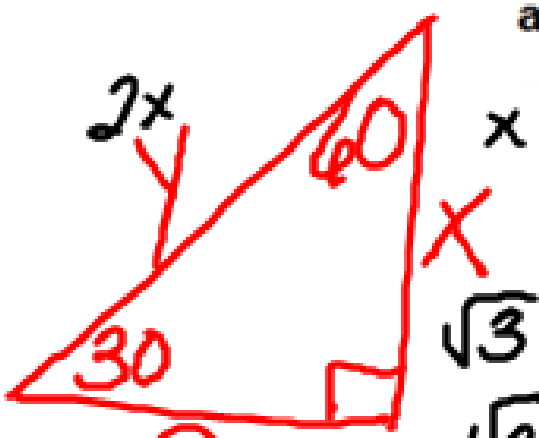
$h = 5.2$

The length of a hypotenuse of a 30° – 60° – 90° right triangle is 17 yards. Find the other two lengths.



Find the values of x and y. Write your answer in simplest radical form.





$\frac{9}{\sqrt{3}} = \frac{x\sqrt{3}}{\sqrt{3}}$

$\frac{\sqrt{3} \cdot 9}{\sqrt{3} \cdot \sqrt{3}} = x$

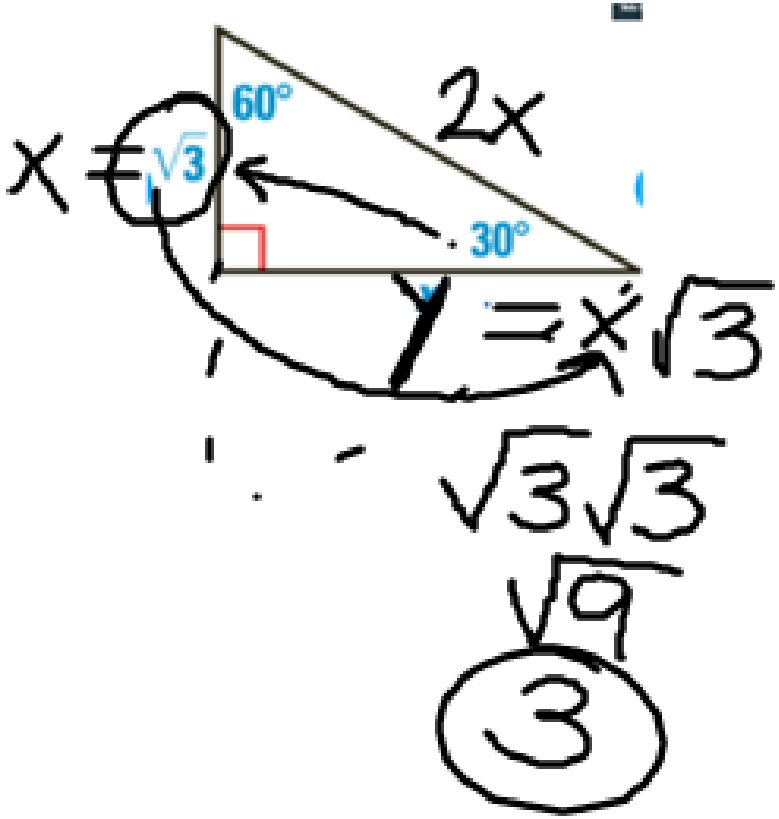
$\frac{3 \cdot 9\sqrt{3}}{3} = x$

$x = 3\sqrt{3}$

$y = 2(3\sqrt{3})$

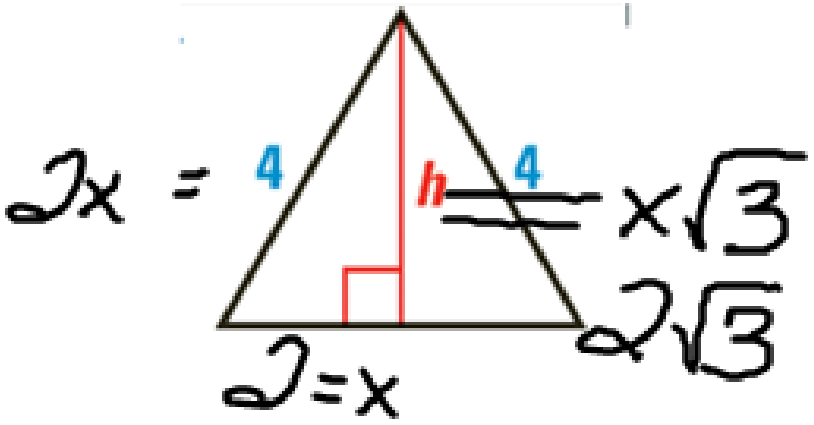
$= 6\sqrt{3}$

You try: Find the value of x.



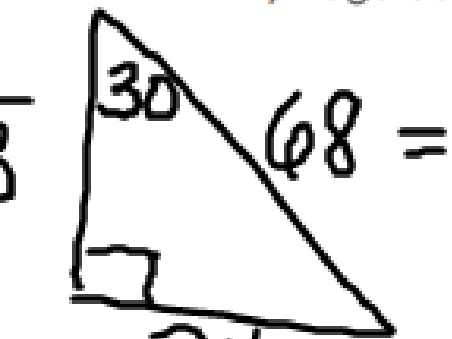
You try:

Find the height of the equilateral triangle.



You try:

A right triangle has a leg with a length of 34 and a hypotenuse with a length of 68. A student notices that the hypotenuse is twice the length of the given leg and says that this means it is a 30° – 60° – 90° triangle. If the student is correct, what should the length of the remaining leg be? Explain your answer. Confirm your answer using the Pythagorean Theorem.



$x\sqrt{3}$

$68 = 2x$

$34 = x$

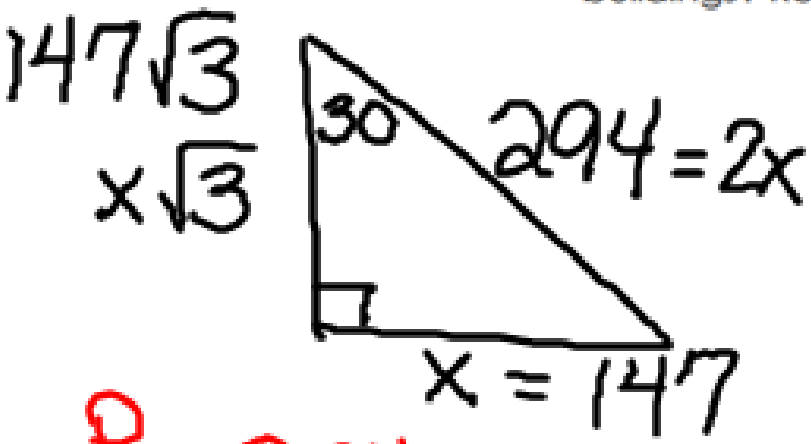
$34\sqrt{3}$

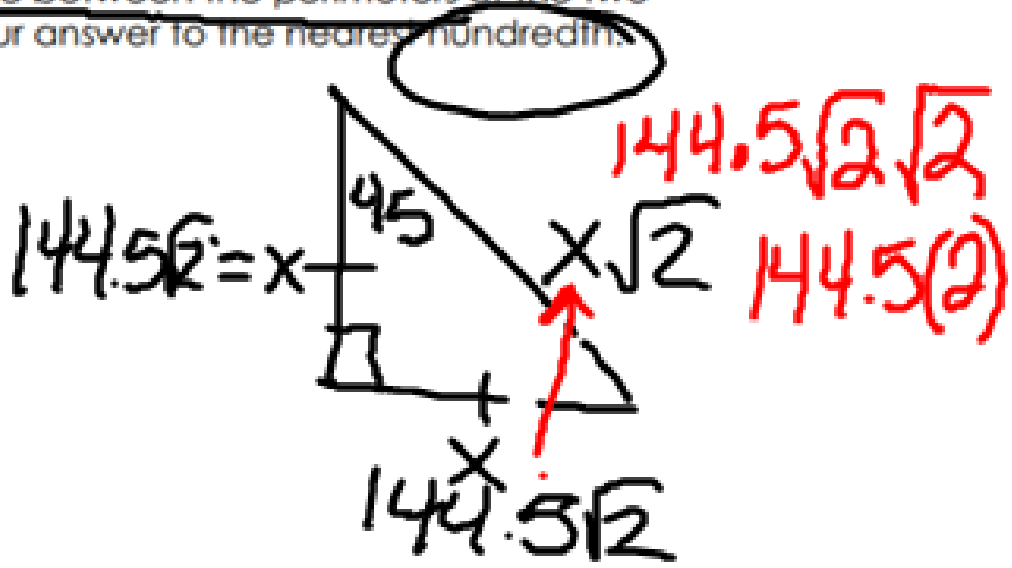
$(34\sqrt{3})^2 + b^2 = 68^2$

BEAT THE TEST!

1. The base of the engineering building at Lenovo Tech Industries is approximately a $30° - 60° - 90°$ triangle with a hypotenuse of about 294 feet. The base of the engineering building at Asus Tech Industries is approximately an isosceles right triangle with a side about $144.5\sqrt{2}$ feet.

   What is the difference between the perimeters of the two buildings? Round your answer to the nearest hundredth.





P = 254.6115
+294
+147
= 695.6115