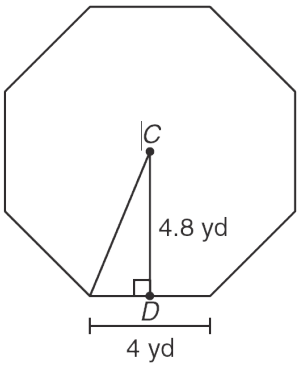
The drama department at McHenry High School has built a stage floor in the shape of a regular octagon. The length of each side of the octagon is 4 yards. $\overline{CD}$ is the apothem. What is the approximate area of the stage floor? [Area = $\frac{1}{2}$ (apothem)(perimeter)]



F 57.9 yd^2
G 76.8 yd^2
H 115.9 yd^2
J 154.5 yd^2

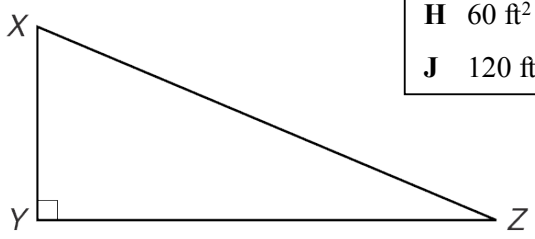
July '06 Obj 8 - # 6

Which of the following sets of numbers represents the side lengths in units of a right triangle?

A 5, 3.2, 4.1
B 3.6, 6, 4.8
C 4.5, 8, 6.7
D 8.5, 5.2, 10

July '06 Obj 8 - # 29

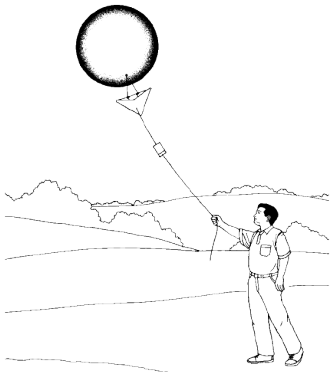
If $XY = 8$ feet and $XZ = 17$ feet, what is the area of ΔXYZ?



F 15 ft^2
G 30 ft^2
H 60 ft^2
J 120 ft^2

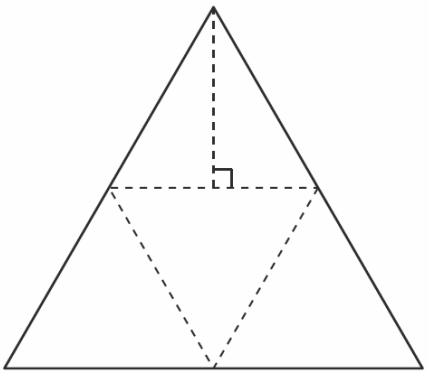
July '06 Obj 8 - # 10

Mr. Norstam has just released a weather balloon with a diameter of about 3 feet. As the weather balloon rises, it will expand and eventually burst because of the changes in the atmospheric pressure. If the weather balloon rises and expands to 1.5 times its diameter before it bursts, what will be its change in volume?



July '06 Obj 8 - # 32

The net of a regular triangular pyramid is shown below. Use the ruler on the Mathematics Chart to measure the dimensions of the pyramid to the nearest tenth of a centimeter. Which of the following best represents the total area of this net?



F 8 cm^2
G 16 cm^2
H 12 cm^2
J 31 cm^2

July '06 Obj 8 - # 18

F The volume will increase to less than 2 times the original volume.
G The volume will increase to between 2 and 3 times the original volume.
H The volume will increase to between 3 and 4 times the original volume.
J The volume will increase to between 4 and 5 times the original volume.

July '06 Obj 8 - # 32 (cont)