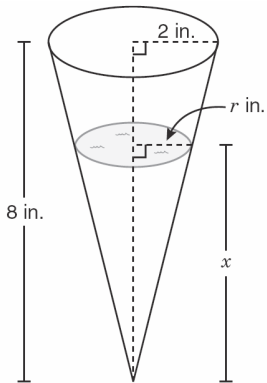


Objective 6 - Page 3 of 6

The figure below shows a conical cup containing water. The water depth can be represented by x , and the area of the water surface can be represented by A . As the water depth changes, the area of the water surface changes, as shown in the table below.



Water Depth (inches)	Area of Water Surface (square inches)
1	$\frac{\pi}{16}$
2	$\frac{\pi}{4}$
3	$\frac{9\pi}{16}$
4	π
8	4π

April '06 Obj 6 - # 38

The pattern below represents the areas of several squares.

1, 9, 25, 49, ...

This pattern was formed by changing the length of the sides of the squares. How does each new length compare to the previous length?

- F** Each new length is 2 units greater.
- G** Each new length is $2\frac{1}{2}$ units greater.
- H** Each new length is 4 units greater.
- J** Each new length is 8 units greater.

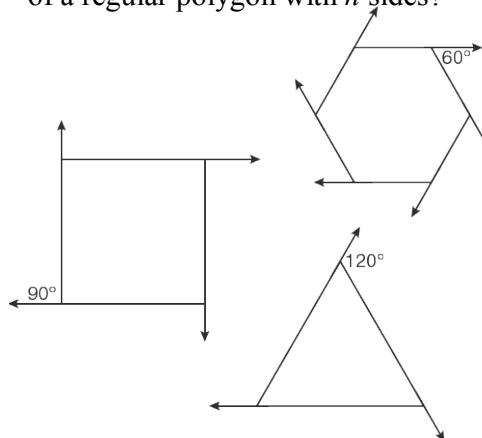
Feb '06 Obj 6 - # 10

Which equation best represents the relationship between the area of the water surface and the water depth?

- F** $A = \frac{\pi (2x - 1)^2}{16} \text{ in.}^2$
- G** $A = \frac{\pi x}{2} \text{ in.}^2$
- H** $A = \frac{\pi x^2}{16} \text{ in.}^2$
- J** $A = \frac{\pi x}{16} \text{ in.}^2$

April '06 Obj 6 - # 38 (cont)

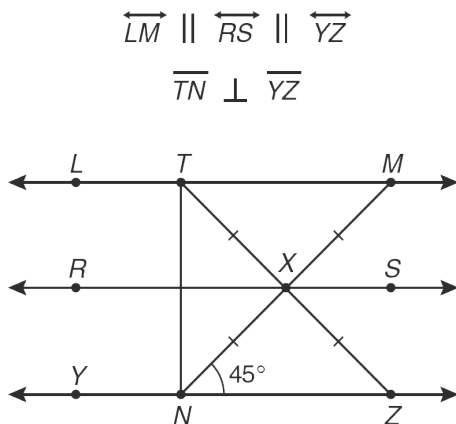
The measure of an exterior angle is shown for each of 3 regular polygons below. Which expression best represents the measure in degrees of an exterior angle of a regular polygon with n sides?



- A** $30(n + 1)$
- B** $\frac{360}{(n - 2)n}$
- C** $30(n - 1)$
- D** $\frac{360}{n}$

Feb '06 Obj 6 - # 13

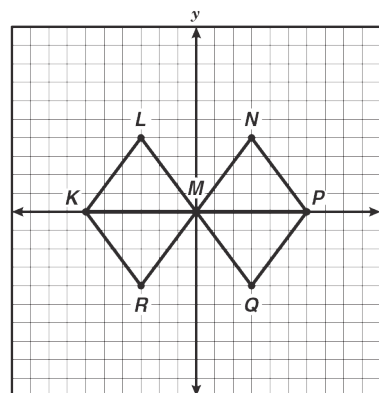
In the figure shown below, $MN = 10$ centimeters. Which is closest to the length of TN ?



- A** 7 cm
- B** 6 cm
- C** 17 cm
- D** 14 cm

April '06 Obj 6 - # 39

Look at the triangles graphed on the grid below. Which of the following correctly describes two triangles, one a single reflection of the other across the x -axis?



- A** $\triangle KLM \cong \triangle PNM$
- B** $\triangle KRM \cong \triangle PQM$
- C** $\triangle KRM \cong \triangle PNM$
- D** $\triangle KLM \cong \triangle KRM$

Feb '06 Obj 6 - # 19