

**MASSACHUSETTS MATHEMATICS LEAGUE**  
**JANUARY 2005**  
**ROUND 5 GEOMETRY: SIMILAR POLYGONS**

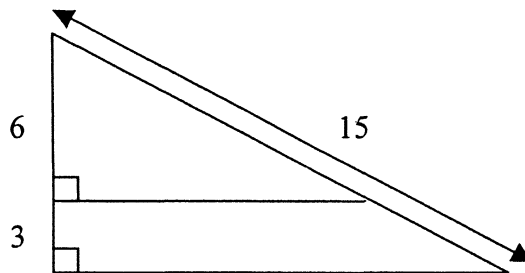
**ANSWERS**

A) \_\_\_\_\_ sq units

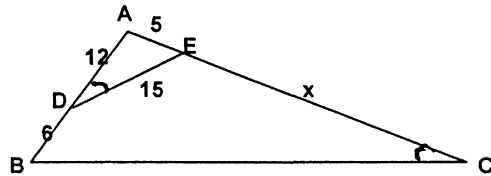
B) \_\_\_\_\_

C) \_\_\_\_\_

- A) In the figure what is the area of the trapezoid?



- B) If  $m\angle ACE = m\angle ADE$  and  $EC = x$ , express the exact value of  $x$  as a decimal.



- C) The ratio of the perimeters of 2 regular hexagons is 4:3 . If the smaller diagonal of the smaller hexagon has length  $4\sqrt{3}$  find the sum of the areas of the two hexagons in the simplified radical form  $\frac{A\sqrt{B}}{C}$  .