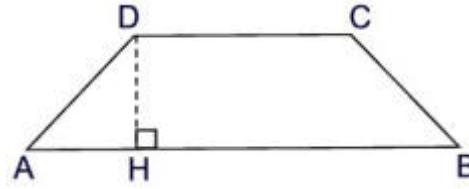


## Regents Practice Test 2

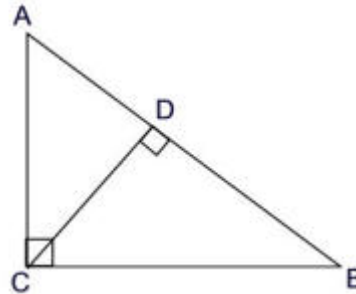
### Geometry

**Part II:** *Show work on separate paper.*

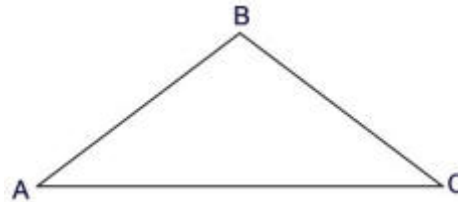
29. In the trapezoid at the right,  $AH = 4$ ,  $HB = 16$ ,  $CD = 14$  and  $m\angle A = 45^\circ$ . Find the area of the trapezoid.



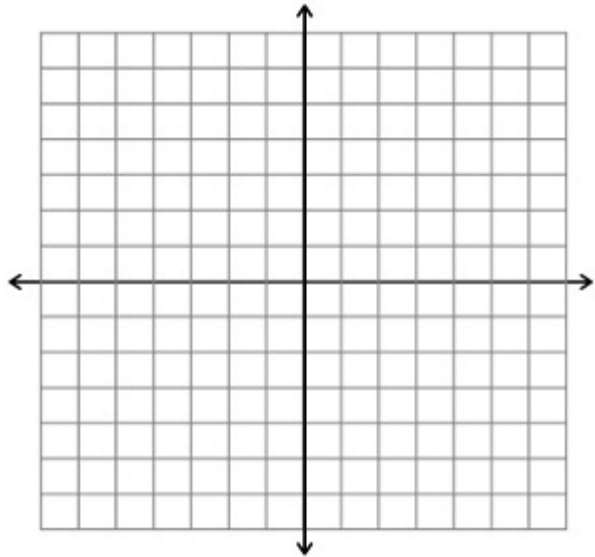
30. In the right triangle shown,  $AD = x - 2$ ,  $AC = x + 2$ , and  $DB = x + 6$ . Find the value of  $x$ .



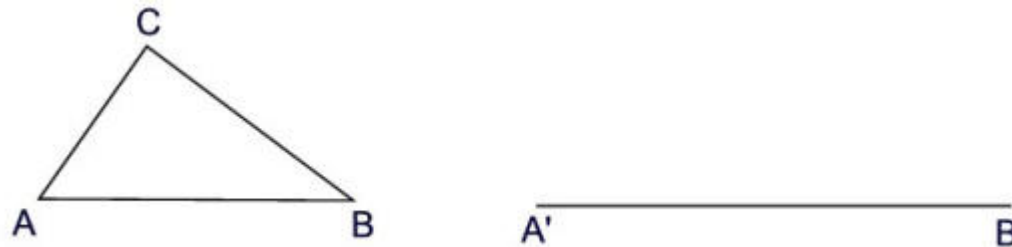
31. In the triangle at the right,  $\overline{AB} \cong \overline{BC}$ . If the ratio of  $m\angle A : m\angle B = 2 : 5$ , find  $m\angle A$  and  $m\angle B$ .



32. Triangle  $ABC$  has vertices  $A(1,1)$ ,  $B(3,2)$  and  $C(1,6)$ . Find the new points  $A'B'C'$  if the triangle is reflected across the line  $x = 0$ .



33. Using a compass and straightedge, construct  $\triangle A'B'C'$  similar to the given triangle  $ABC$  using the given segment  $A'B'$ .



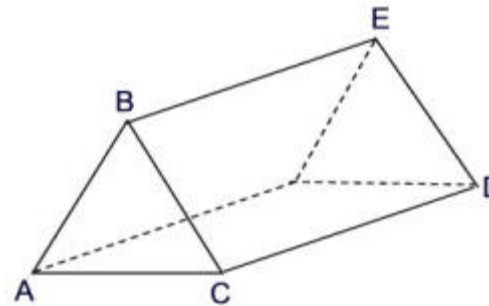
34. STATEMENT: "If a diameter of a circle is perpendicular to a chord, then it bisects the chord."  
Write the contrapositive of the statement and state whether it is true or false.

Contrapositive:

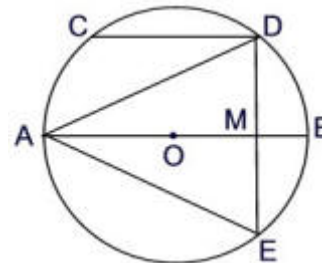
True or False?

**Part III:**

35. A triangular prism is shown at the right with  $\overline{AB} \cong \overline{BC} \cong \overline{AC}$ .  
If  $AC = 12$  cm. and  $CD = 20$  cm., find the volume of the prism to the *nearest tenth of a cubic centimeter*.  
(The formula for the volume of a prism is  $V = Bh$ , where  $B$  is the area of the base and  $h$  is the height.)



36. In circle  $O$ ,  $\overline{AB}$  is a diameter with  $\overline{AB} \parallel \overline{CD}$ .  
If  $m\widehat{CD} = 108$  and  $m\widehat{AE} = 2m\widehat{BE}$ , find  $m\angle AME$ .



37. Solve this system of equations for  $x$  and  $y$ .

$$y = x^2 + 4x - 5$$

$$-4x + y = -1$$

**Part IV:**

38. A rhombus  $MATH$  is drawn in the coordinate plane with coordinates given. Diagonals  $\overline{MT}$  and  $\overline{HA}$  are drawn.  
 $M(-2,-1)$   $A(0,5)$ ,  $T(6,3)$   $H(4,-3)$   
Prove: The diagonals of rhombus  $MATH$  are perpendicular and bisect each other.

