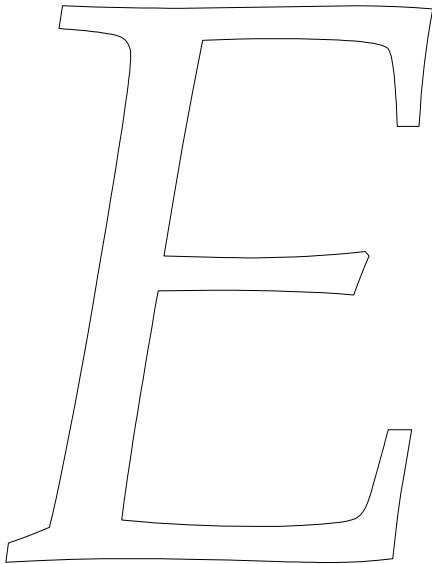


**REMT 2007**

**ANSWERS**



1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

11. \_\_\_\_\_

12. \_\_\_\_\_

**GEOMETRICAL**

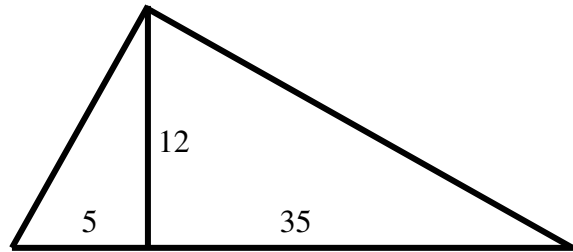
**GEMS**

\_\_\_\_\_  
LAST NAME

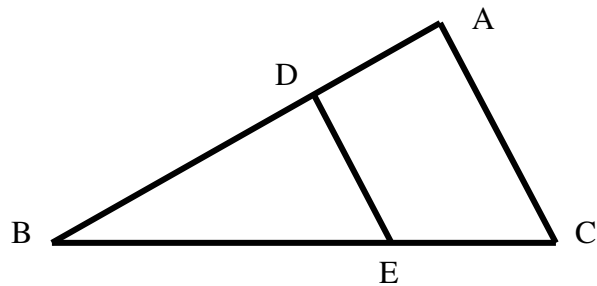
\_\_\_\_\_  
FIRST NAME

\_\_\_\_\_  
GRADE

1. Two right triangles having legs 5 and 12, and 12 and 35 respectively, are joined together along their equal legs to form one large triangle, as shown. What is the perimeter of this large triangle?



2. In triangle ABC, point D is one-third of the way from A to B, and DE is parallel to AC. What is the ratio of the area of triangle DBE to the area of triangle ABC?

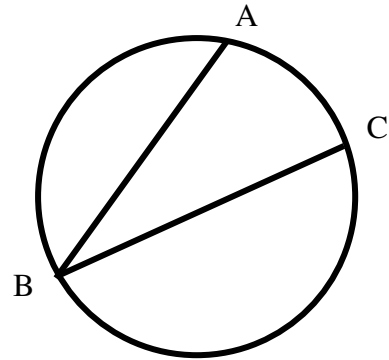


3. What is the area of a square inscribed in a circle of radius 10?
4. What is the surface area of a cube inscribed in a sphere of radius 10?

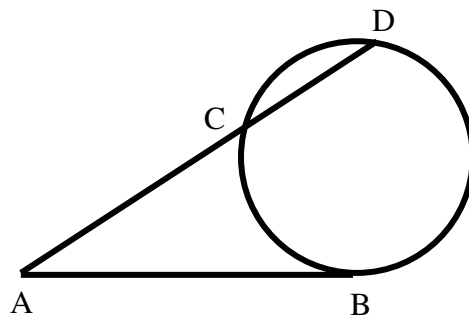
5. What is the circumference, to the nearest inch, of a circle whose radius is 7 inches?

6. What is the area, to the nearest inch, of a circle whose radius is 7 inches?

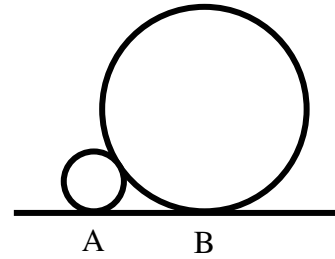
7. The circumference of this circle is 10 and the length of the short arc AC is 2. What is the degree measure of the angle ABC?



8. From a point A, a tangent is drawn to a circle, meeting it at B. Another line from A meets the circle at C and at D. If the length of AB is 10, and the length of AC is 8, what is the length of CD?

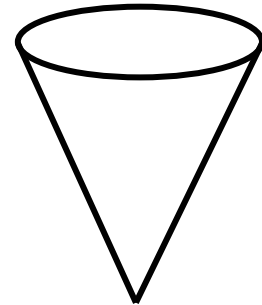


9. Circles of radius 2 and 8 are tangent to a line at A and B, respectively, and are also tangent to each other, as shown. What is the length of segment AB?



10. At a certain time of day, a 6-foot post casts a 4-foot shadow. At the same time a flagpole casts a 28-foot shadow. How many feet high is the flagpole?

11. What is the volume, to the nearest cubic inch, of a conical cup for which the height is 6 inches and the radius of the top is 2 inches?



12. An equilateral triangle is inscribed in a quadrant of a circle, as shown. What, exactly, is the ratio of the area of the triangle to the area of the quadrant?

