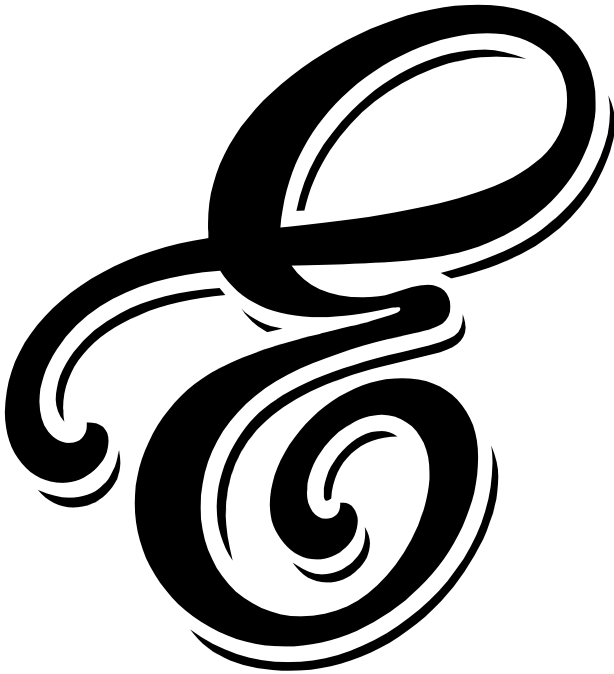


REMT 2003

ANSWERS



GEOMETRICAL

GEMS

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

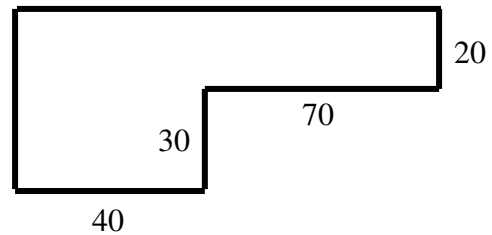
LAST NAME

FIRST NAME

GRADE

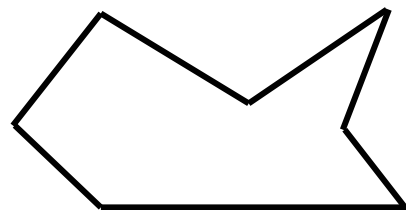
1. What is the circumference, to the nearest one-tenth of an inch, of a circle whose diameter is 3 inches?

2. An L-shaped building has a floor plan as shown, with the lengths of some of its walls marked in feet. How many square feet is the floor of the building?



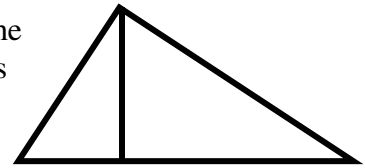
3. The midpoints of the sides of an equilateral triangle are joined to form a smaller triangle. What is the ratio of the area of the larger triangle to that of the smaller triangle?

4. What is the degree measure of the sum of the interior angles in this irregular polygon?

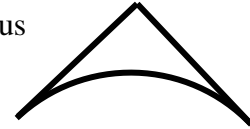


5. What is the ratio of the area of a square inscribed in a semicircle to the area of a square inscribed in an entire circle of the same radius?

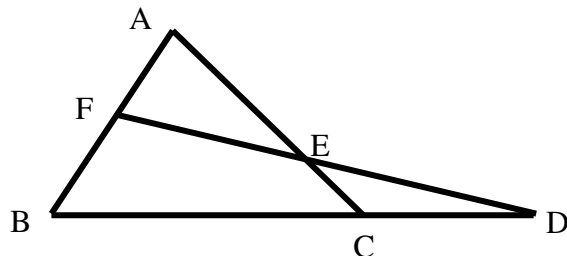
6. An altitude drawn to the hypotenuse of a right triangle divides the hypotenuse into pieces of length 1 and 4. What is the area of this triangle?



7. This figure is bounded by an arc that is one-fourth of a circle of radius 1 and two segments that are tangent to the ends of the arc and perpendicular to each other. What is the perimeter of the figure?

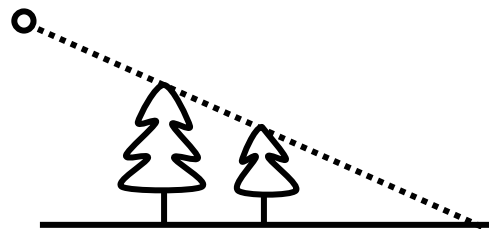


8. In this figure, angle FAE measures 70 degrees, angle FBC measures 50 degrees, and angle FEC measures 150 degrees. What is the degree measure of angle CDE?



9. The base of a triangle is 15 inches. Two segments are drawn parallel to the base that divide the triangle in three pieces of equal area. How long is the parallel closer to the base?
10. One end of a telephone wire is fastened to a house at a point 20 feet above the ground. The other end is fastened to a pole 60 feet away at a point 31 feet above the ground. If the wire is stretched taut, how many feet long is it?

11. There are two fir trees growing 15 feet apart in my yard. I noticed that at a certain time of day, the shadows of the tips of the trees coincide at a point 20 feet from the shorter tree. What is the ratio, in lowest terms, of the height of the taller tree to the height of the shorter tree?



12. Suppose the perimeter of an isosceles right triangle is $2p$. What is its area?