

REMT 2008

ANSWERS



GEOMETRICAL

GEMS

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

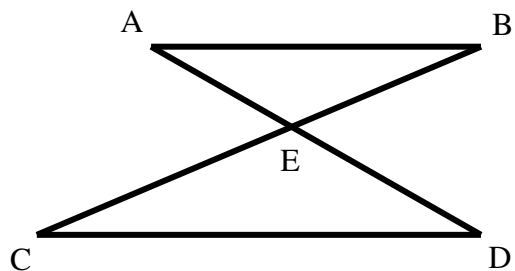
LAST NAME

FIRST NAME

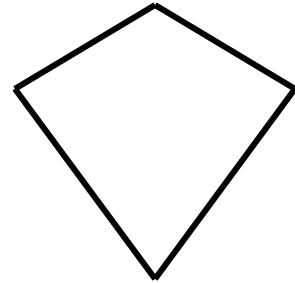
GRADE

1. What is the hypotenuse, to the nearest inch, of a right triangle with legs of 10 inches and 7 inches?
2. What is the circumference, to the nearest inch, of a circle whose radius is 8 inches?
3. What is the area, to the nearest square inch, of a circle whose radius is 8 inches?

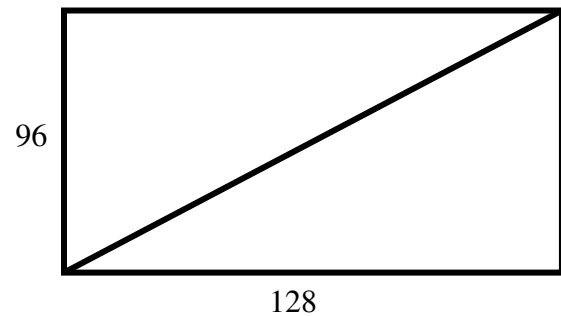
4. Segment AB is parallel to segment CD. Angle ABC measures 25 degrees, and angle ADC measures 35 degrees. What is the degree measure of angle AEC?



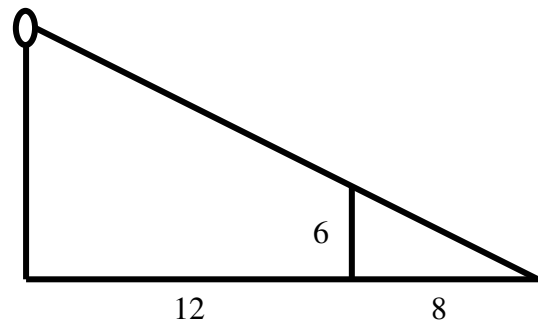
5. This kite is 36 inches high and 20 inches wide. What is its area, in square inches?



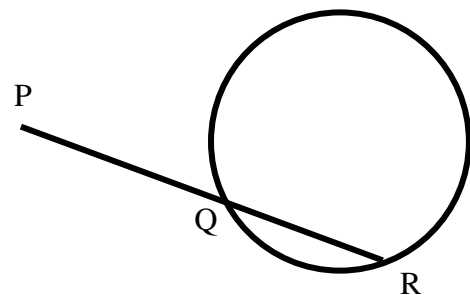
6. A builder is constructing a wall 96 inches high and 128 inches wide. The wall needs a diagonal brace; how many inches long must this brace be?



7. A light on top of a pole illuminates a second pole which is 6 feet high and 12 feet away from the light pole. The shadow of this second pole is 8 feet long. How many feet high is the light pole?

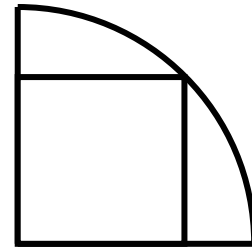


8. A point P lies 7 inches away from the center of a circle whose radius is 3 inches. The distance from P to a certain point Q on the circle is 5 inches. What is the distance from P to R, the point where the extension of PQ intersects the circle?

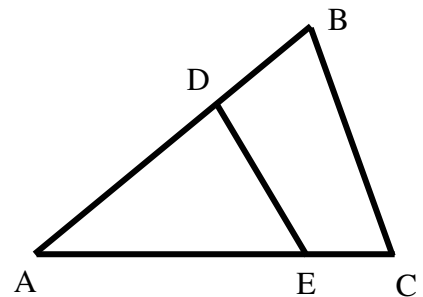


9. Three circles, of radii 10, 20, and 30, are all externally tangent to each other. If a fourth circle is drawn passing through the centers of these three circles, what will its radius be?

10. A square is inscribed in a quadrant of a circle, as shown. What, exactly, is the ratio of the area of the square to the area of the quadrant?



11. In this figure, angle ADE is equal to angle ACB. Point D is two-thirds of the way from A to B and point E is three-fourths of the way from A to C. If the length of BC is 10, what is the length of DE?



12. A water tank is in the shape of a cylinder with a conical top and a hemispherical bottom. The radius of the cylinder and the altitudes of both the cone and the cylinder are all equal to 10 feet. What is the volume, to the nearest square foot, of this tank?

