

A = area of an equilateral triangle with a side length of 4.

B = area of a square with a side length of 3.

C = area of a regular hexagon with a side length of 4.

What is $\frac{C}{A} + B$?

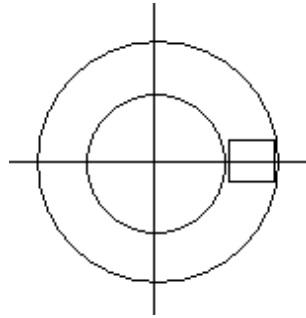
A is the number of sides a polygon has with 65 diagonals

B is equal to 1 if part A is less than or equal to 10, or B is 2 if it is greater than 10

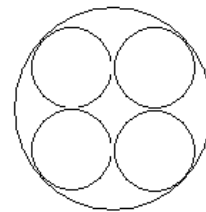
C is 20 if B is odd, or C is 25 if B is even

What is $A^B + C$

In a coordinate plane, a circle of radius 10 has its center at the origin. A square of side length 14 is externally tangent to the circle at the center of one of its sides. Let the shaded area be the area formed by the square circling the circle completely (meaning the square goes around the circle, still being tangent to the circle at the center of its side at all times). What is the area of this shaded area (annulus)?



Four congruent circles are inscribed in a circle and each of the four are externally tangent to its two adjacent circles. Each of the four circles are also tangent to the larger circle at one point. The radius of the larger circle is 4. What is the radius of one of the smaller inscribed circles?



What is $(A)(B)(C)$?

A = the radius of a circle that is circumscribed about a hexagon with an area of $12\sqrt{3}$

B = the radius of a circle that is inscribed in an equilateral triangle with an area of $2\sqrt{3}$

C = the length of a side of an octagon that is inscribed in a square of side length 4. The octagon has a maximum area.

A cube has a length of 216. It is divided into 27 identical cubes. These cubes are each divided into 8 identical cubes. These new cubes are divided into 27 new identical cubes. These new cubes are divided into 8 more identical cubes.

The sum of the surface areas of all of these cubes is equal to $(2^x)(3^y)$. What is $(x)(y)$?

Triangle ABC and DEF are similar. $m\angle B = m\angle E = 90^\circ$. If $AB = 7$, $BC = 24$, and $DF = 50$, what is the area of $\triangle DEF$?

A boy wants to cut a square with the largest area out of a triangular cardboard paper with sides 5, 12, and 13. Find the length of a side of the square, given the corners of the square must be on the sides or corners of the triangle.

A pentagon ABCDE is inscribed in a circle. Arc AB = 80° . What is $m\angle C + m\angle E$?

Equilateral triangle ABC has length 4.

A = length of the side of an equilateral triangle with $\frac{1}{2}$ times the area of ABC

B = length of the side of an equilateral triangle with 2 times the area of ABC

C = length of the side of an equilateral triangle with 3 times the area of ABC

D = length of the side of an equilateral triangle with 4 times the area of ABC

What is AB + CD?

In an octagon, a diagonal is chosen at random.

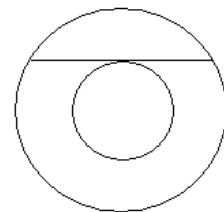
A = the probability that the diagonal chosen is neither the longest nor the shortest one.

B = the probability that the diagonal chosen is the shortest one

C = the probability that the diagonal chosen is the longest one

What is $(A)(B)(C)$?

There are two concentric circles. A chord of length 6 is drawn in the larger circle that is tangent to the smaller circle. The radius of the larger circle is $\sqrt{10}$ times bigger than the radius of the smaller circle. What is the area outside in the smaller circle but inside the larger circle?



Find the positive difference between the volume and surface area of a sphere with a radius of 4.

A rhombus has diagonals of length 16 and 20. The diagonals are cut in half. What is the new area?

What is $A + B + C$?

A = the number of sides in a polygon with 27 diagonals

B = the number of sides in a polygon with 170 diagonals

C = the number of sides in a regular polygon with angles of 144°