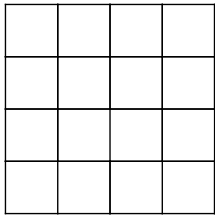


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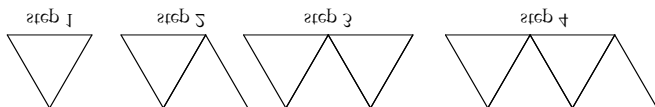
Geometry – 4th Grade

1. How many squares of all size are there in this picture?

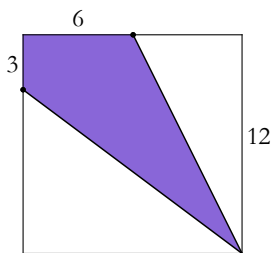


2. What is the angle between the minute hand and the hour hand on an analog clock when it is 5:00?

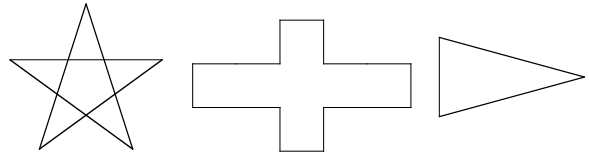
3. Jane was making a pattern with triangular blocks; the first four steps are shown below. What is the perimeter of the pattern at step 10?



4. In the square below, what is the shaded area?



5. How many total lines of reflectional symmetry are there in the figures below?

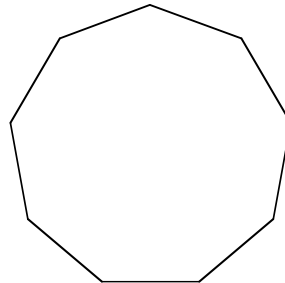


6. A toy block has a volume of 64 cm^3 . If 10 of these blocks are lined up in a row with their faces connected, what is the total surface area of the blocks, in square centimeters?

7. A cube has a volume of 64 in^3 . What is the total surface area of this cube, in square inches?

8. A square has an area of 100 cm^2 . A rectangle with the same area has one side length of 5 cm. What is the difference between the perimeter of the rectangle and the perimeter of the square?

9. How many diagonals are there in this nonagon?

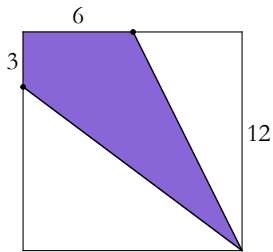


10. A rectangular prism has faces with the following surface areas: 108 in^2 , 144 in^2 and 192 in^2 . What is the volume of the prism, in cubic inches?

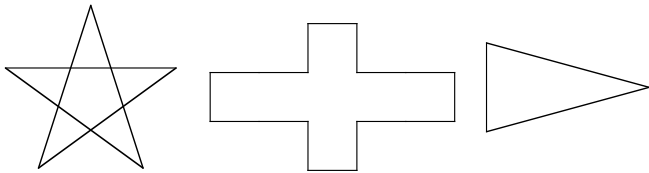
Whatcom County Math Championship – 2014

Geometry – 5th Grade

1. In the square below, what is the shaded area?



2. How many total lines of reflectional symmetry are there in the figures below?

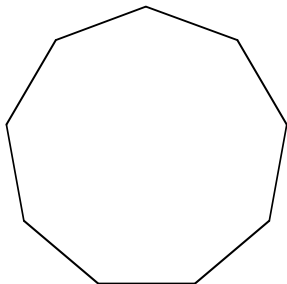


3. A toy block has a volume of 64 cm^3 . If 10 of these blocks are lined up in a row with their faces connected, what is the total surface area of the blocks, in square centimeters?

4. A cube has a volume of 64 in^3 . What is the total surface area of this cube, in square inches?

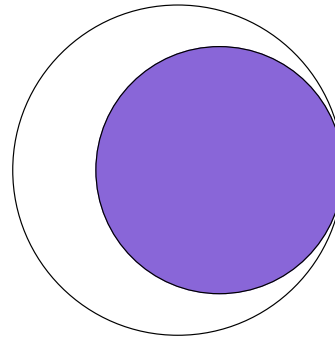
5. A square has an area of 100 cm^2 . A rectangle with the same area has one side length of 5 cm. What is the difference between the perimeter of the rectangle and the perimeter of the square?

6. How many diagonals are there in this nonagon?



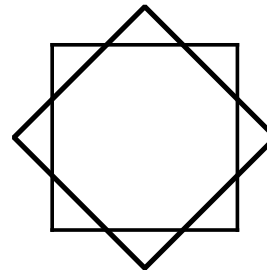
7. A rectangular prism has faces with the following surface areas: 108 in^2 , 144 in^2 and 192 in^2 . What is the volume of the prism, in cubic inches?

8. In the picture below, the shaded circle has an area of $81\pi \text{ cm}^2$, and the larger circle has a diameter that is 6 centimeters longer than the diameter of the shaded circle. What is the unshaded area of the larger circle, in terms of π ?



9. What is the angle of between the minute hand and the hour hand on an analog clock when it is 10:55?

10. How many lines of symmetry are there in the figure below?



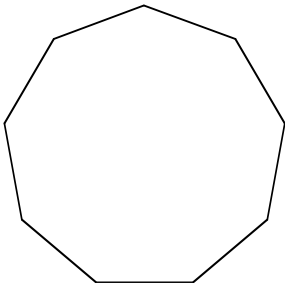
Whatcom County Math Championship – 2014

Geometry – 6th Grade

1. A cube has a volume of 64 in^3 . What is the total surface area of this cube, in square inches?

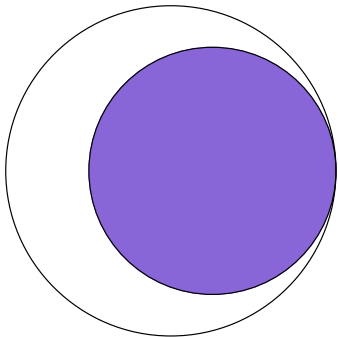
2. A square has an area of 100 cm^2 . A rectangle with the same area has one side length of 5 cm. What is the difference between the perimeter of the rectangle and the perimeter of the square?

3. How many diagonals are there in this nonagon?



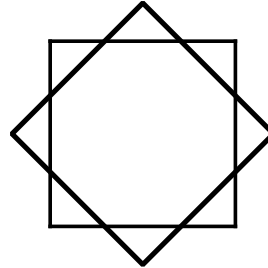
4. A rectangular prism has faces with the following surface areas: 108 in^2 , 144 in^2 and 192 in^2 . What is the volume of the prism, in cubic inches?

5. In the picture below, the shaded circle has an area of $81\pi \text{ cm}^2$, and the larger circle has a diameter that is 6 centimeters longer than the diameter of the shaded circle. What is the unshaded area of the larger circle, in terms of π ?

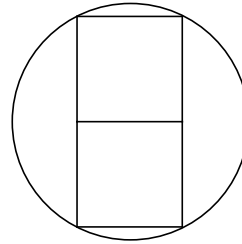


6. What is the angle of between the minute hand and the hour hand on an analog clock when it is 10:55?

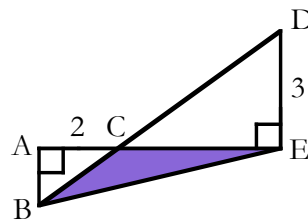
7. How many lines of symmetry are there in the figure below?



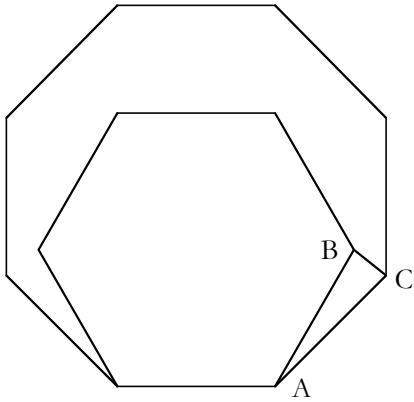
8. In the picture below, two squares of total area 72 are inscribed in a circle. What is the area of the circle? **Leave your answer in terms of π .**



9. In the picture below, the length of AC is 2 cm, the length of DE is 3 cm. What is the area of triangle BCE in cm^2 ?



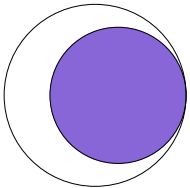
10. The octagon and hexagon in the picture below are both regular polygons. What is the degree measure of $\angle ABC$?



Whatcom County Math Championship – 2014 Geometry – 7th and 8th Grade

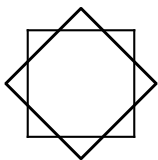
1. A rectangular prism has faces with the following surface areas: 108 in^2 , 144 in^2 and 192 in^2 . What is the volume of the prism, in cubic inches?

2. In the picture below, the shaded circle has an area of $81\pi \text{ cm}^2$, and the larger circle has a diameter that is 6 centimeters longer than the diameter of the shaded circle. What is the unshaded area of the larger circle, in terms of π ?

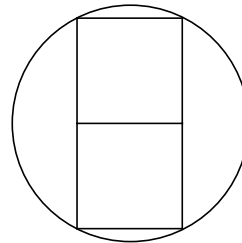


3. What is the angle of between the minute hand and the hour hand on an analog clock when it is 10:55?

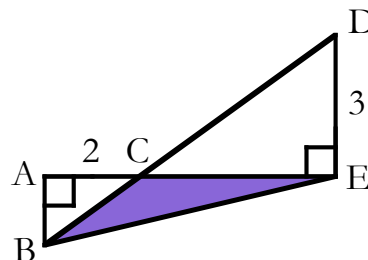
4. How many lines of symmetry are there in the figure below?



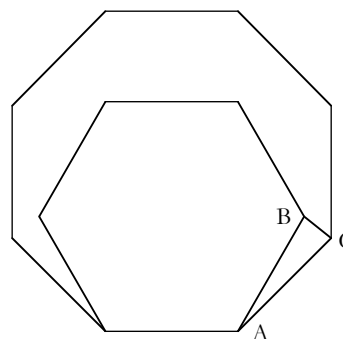
5. In the picture below, two squares of total area 72 are inscribed in a circle. What is the area of the circle? **Leave your answer in terms of π .**



6. In the picture below, the length of AC is 2 cm, the length of DE is 3 cm. What is the area of triangle BCE in cm^2 ?



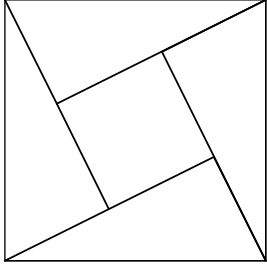
7. The octagon and hexagon in the picture below are both regular polygons. What is the degree measure of $\angle ABC$?



8. Three equilateral triangles are joined to form an isosceles trapezoid. If the area of the trapezoid is 9,

what is the perimeter of the trapezoid, to the nearest hundredth?

9. A square of area 100 is cut into four congruent triangles and a smaller square. If the side lengths of the legs of one of the triangles are in a ratio of 2:1, what is the area of the smaller square?



10. Three bowling balls were stacked on top of each other as shown below. If the diameter of each ball is 8.5 inches, how high above the floor is the top bowling ball, to the nearest hundredth of an inch?

