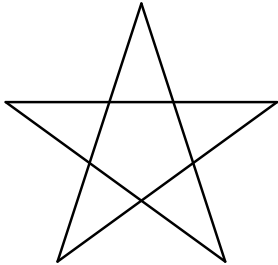


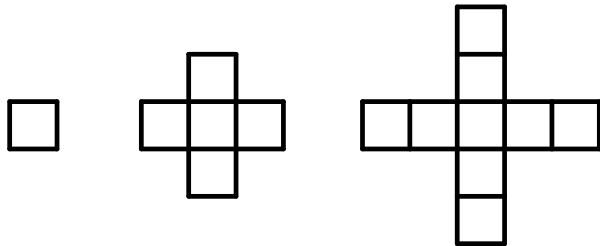
Whatcom County Math Championship – 2017

Geometry – 4th Grade

1. The perimeter of a square is 32 cm. What is the area of the square?
2. What is the sum of the number of sides on a kite, a pentagon and a hexagon?
3. How many triangles of all sizes are there in the picture below?



4. What is the angle between the minute hand and the hour hand of an analog clock at 10:00?
5. If the pattern below continues, what will the perimeter of step 6 be?



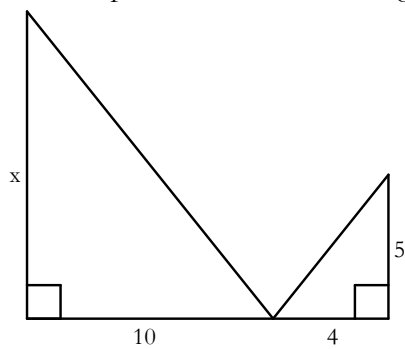
step 1

step 2

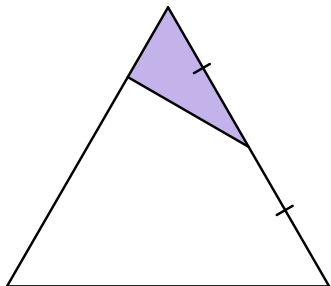
step 3

6. A rectangle has an area of 24 cm^2 and a width of $\frac{1}{2}$ cm. What is the length of the rectangle?
7. Redbeard the pirate starts at the lonely palm, walks 20 paces west, then turns and walks 40 paces south to dig for his treasure. How many paces would Redbeard have to walk to get directly back to the lonely palm? **Round your answer to the nearest pace.**
8. A circle of radius 7 cm is folded perfectly in half. What is the perimeter of the new shape? **Round your answer to the nearest tenth.**

9. In the picture below, the triangles are similar. What is x ?



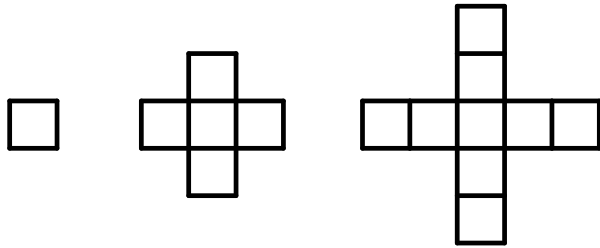
10. What fraction of the area of this equilateral triangle is shaded? **Give your answer as a fraction in lowest terms.**



Whatcom County Math Championship – 2017

Geometry – 5th Grade

1. What is the angle between the minute hand and the hour hand of an analog clock at 10:00?
2. If the pattern below continues, what will the perimeter of step 6 be?

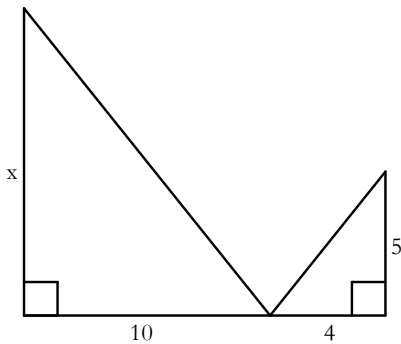


step 1

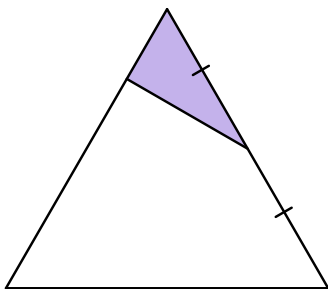
step 2

step 3

3. A rectangle has an area of 24 cm^2 and a width of $\frac{1}{2} \text{ cm}$. What is the length of the rectangle?
4. Redbeard the pirate starts at the lonely palm, walks 20 paces west, then turns and walks 40 paces south to dig for his treasure. How many paces would Redbeard have to walk to get directly back to the lonely palm? **Round your answer to the nearest pace.**
5. A circle of radius 7 cm is folded perfectly in half. What is the perimeter of the new shape? **Round your answer to the nearest tenth.**
6. In the picture below, the triangles are similar. What is x ?



7. What fraction of the area of this equilateral triangle is shaded? **Give your answer as a fraction in lowest terms.**

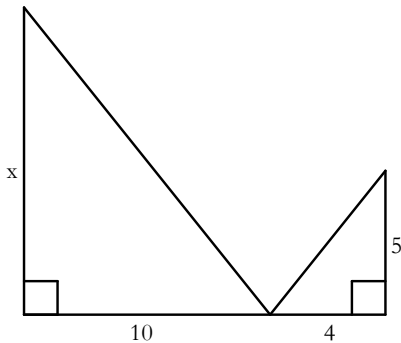


8. Anya has 4 cubical blocks, each with a volume of 512 cm^3 . If she stacks them one on top of the other, they have a surface area of A. If she arranges them into a square, they have a surface area of B. What is the difference between A and B?
9. What is the sum of the interior angles of a kite, a pentagon and a hexagon?
10. If a rectangle has an area of 48 cm^2 , what is the largest whole number perimeter that the rectangle could have?

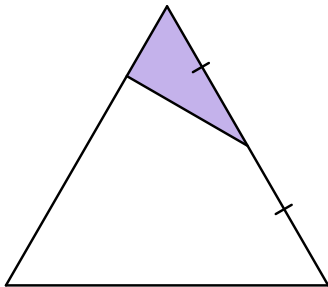
Whatcom County Math Championship – 2017

Geometry – 6th Grade

1. Redbeard the pirate starts at the lonely palm, walks 20 paces west, then turns and walks 40 paces south to dig for his treasure. How many paces would Redbeard have to walk to get directly back to the lonely palm? **Round your answer to the nearest pace.**
2. A circle of radius 7 cm is folded perfectly in half. What is the perimeter of the new shape? **Round your answer to the nearest tenth.**
3. In the picture below, the triangles are similar. What is x ?

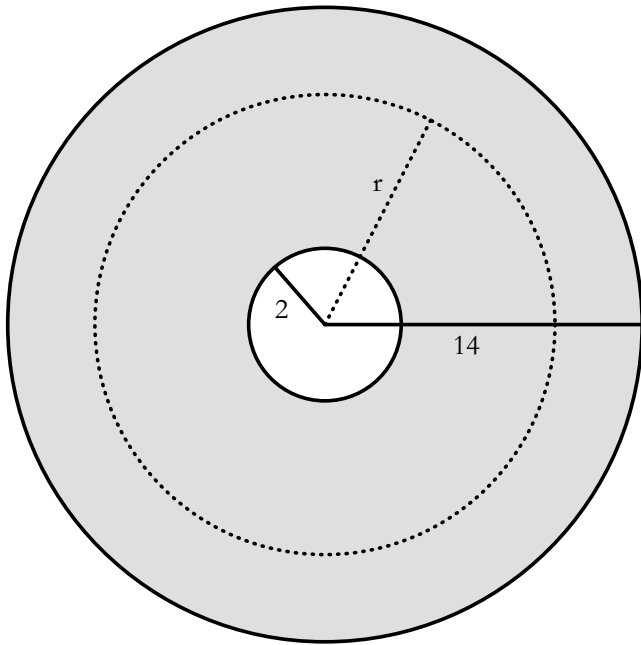


4. What fraction of the area of this equilateral triangle is shaded? **Give your answer as a fraction in lowest terms.**

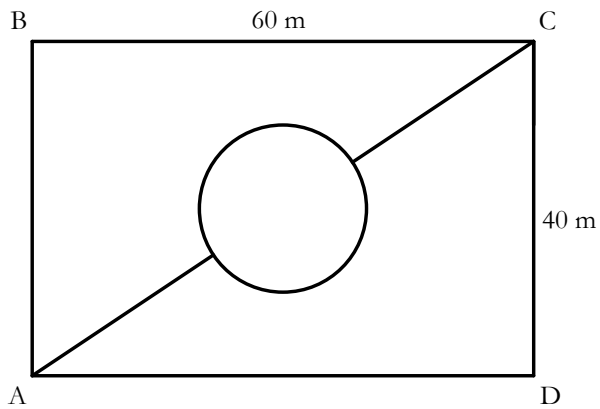


5. Anya has 4 cubical blocks, each with a volume of 512 cm^3 . If she stacks them one on top of the other, they have a surface area of A. If she arranges them into a square, they have a surface area of B. What is the difference between A and B?
6. What is the sum of the interior angles of a kite, a pentagon and a hexagon?
7. If a rectangle has an area of 48 cm^2 , what is the largest whole number perimeter that the rectangle could have?
8. An isosceles triangle has one angle that is three times the size of another. What is the measure of the smallest angle in this triangle if the angle is not whole number of degrees? **Round your answer to the nearest hundredth.**

9. In the picture below, the big circle has a radius of 14 and the small circle has a radius of 2. What is the radius of the circle that will cut the area of the shaded ring in half? **Round your answer to the nearest hundredth.**



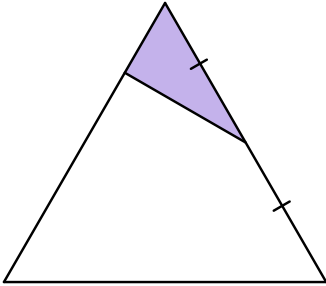
10. In the map of Paisley Park shown below, all lines are paths. ABCD is a rectangle, and the diameter of the circle path is 10m. What is the shortest distance from point A to point C using a path? **Round your answer to the nearest tenth.**



Whatcom County Math Championship – 2017

Geometry – 7th + 8th Grade

1. What fraction of the area of this equilateral triangle is shaded? **Give your answer as a fraction in lowest terms.**



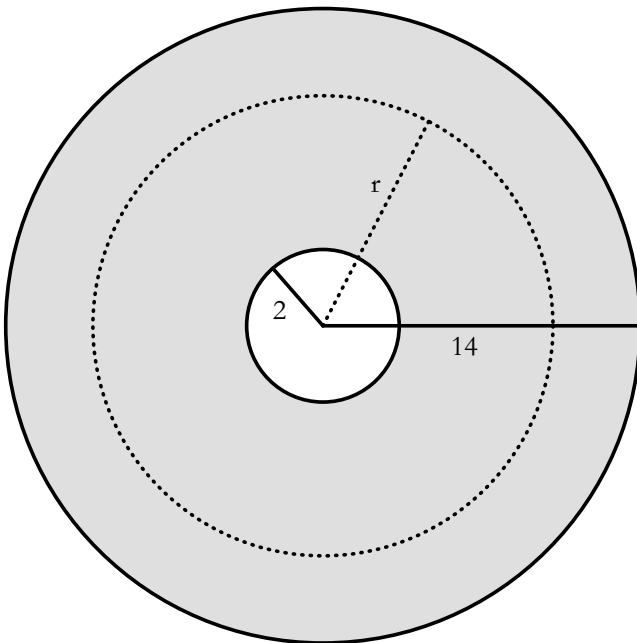
2. Anya has 4 cubical blocks, each with a volume of 512 cm^3 . If she stacks them one on top of the other, they have a surface area of A. If she arranges them into a square, they have a surface area of B. What is the difference between A and B?

3. What is the sum of the interior angles of a kite, a pentagon and a hexagon?

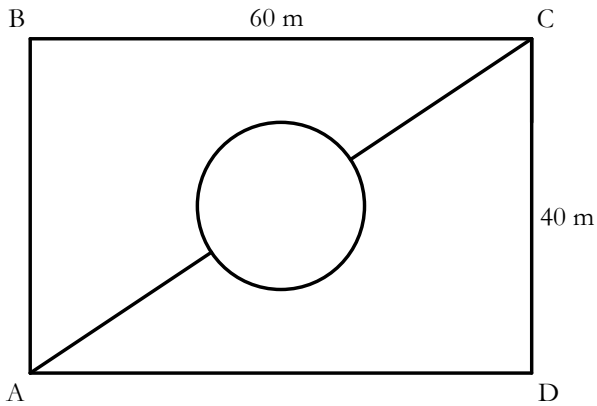
4. If a rectangle has an area of 48 cm^2 , what is the largest whole number perimeter that the rectangle could have?

5. An isosceles triangle has one angle that is three times the size of another. What is the measure of the smallest angle in this triangle if the angle is not whole number of degrees? **Round your answer to the nearest hundredth.**

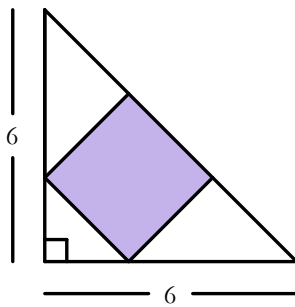
6. In the picture below, the big circle has a radius of 14 and the small circle has a radius of 2. What is the radius of the circle that will cut the area of the shaded ring in half? **Round your answer to the nearest hundredth.**



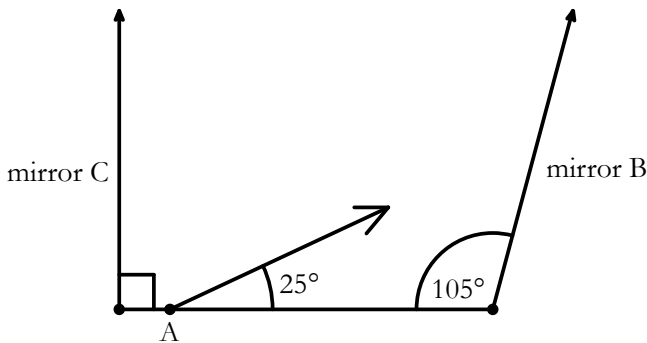
7. In the map of Paisley Park shown below, all lines are paths. ABCD is a rectangle, and the diameter of the circle path is 10m. What is the shortest distance from point A to point C using a path? **Round your answer to the nearest tenth.**



8. If the side length of the large isosceles triangle is 6, what is the area of the shaded square? **Round your answer to the nearest hundredth.**



9. A light beam starts at point A. What angle does the beam form with mirror B the second time it reflects?



10. The area of the square below is 8 cm^2 . What is the area of the shaded region? **Round your answer to the nearest hundredth.**

