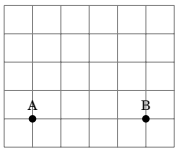
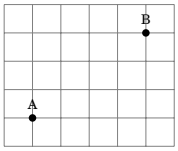
1. How far apart are points A and B?



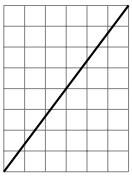
The measure of the side of each of the small squares is 1 cm.

2. How far apart are points A and B?



The measure of the side of each of the small squares is 1 unit.

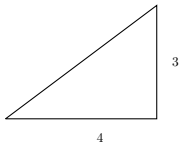
3. The measure of the side of each of the small squares is 1 unit.



What is the measure of the bold line?

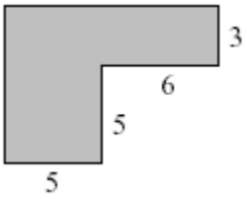
4. What is the perimeter of the following rectangle?

5. What is the perimeter of the following triangle?

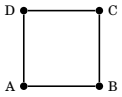


(angles that look like right angles are right angles)

6. All angles of the shape below are right angles. What is the perimeter of the shape?



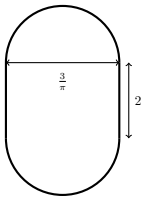
7. The perimeter of the square $ABCD$ is 36.



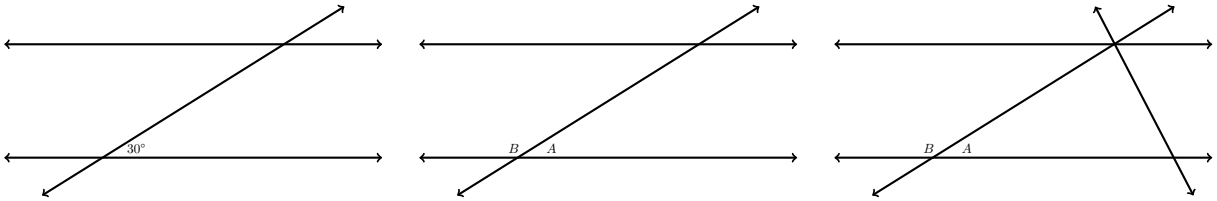
What is one side length of the square?

8. The radius of a circle is $\frac{18}{\pi}$. What is the circumference of the circle?

9. Determine the perimeter of the following figure.

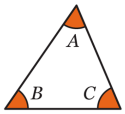


10. The two lines that look parallel are parallel.

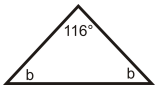


What other angles can we determine in these diagrams?

11. In triangle ABC (not to scale) angle A is $30°$ and angle B is $70°$. What is angle C?

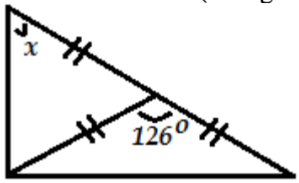


12. Determine the missing angles:



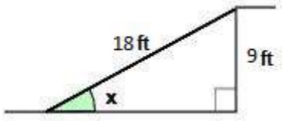
13.

The right triangle below consists of 2 isosceles triangles.
What is the value (in degrees) of the angle x?



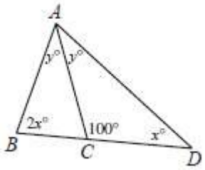
14.

What is the value (in degrees) of the angle marked by the letter x?

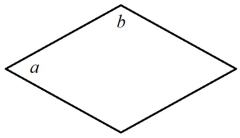


15.

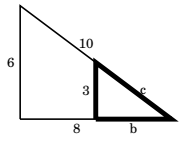
x and y are measures of angles in ΔABC and ΔACD as shown below (the figure is not drawn to scale). What is the value of x (in degrees)?



16. Suppose the interior angle a of the rhombus shown below measures $32°$. What is the measure of the angle b in degrees?

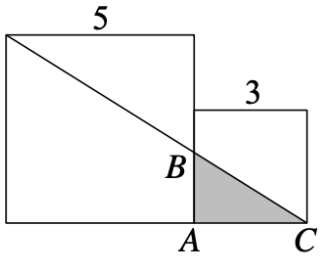


17. Determine the missing side lengths a and c.



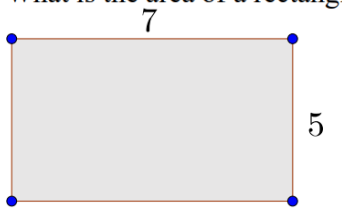
18.

In the picture below, the larger square has side 5,
and the smaller square has side 3.
What is the length of AB ?
Express your answer as a common fraction.
(Hint: Some triangles are similar.)



19.

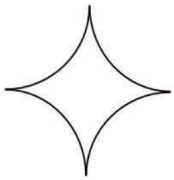
What is the area of a rectangle with sides 5 and 7?



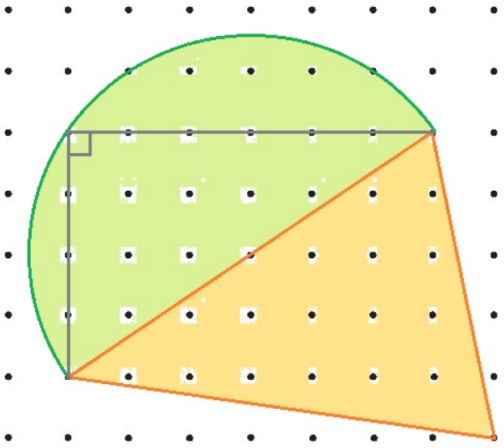
20. What is the circumference of a circle with area $\frac{144}{\pi}$?

21.

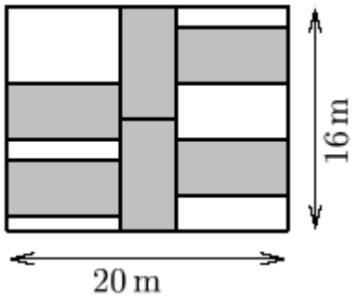
The figure below consists of 4 quarter circles of radius 2.
What area is enclosed in the figure rounded to the nearest whole number?



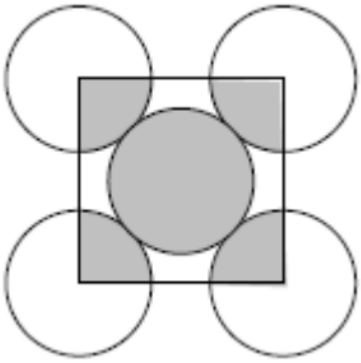
22. Find the area of the shaded region.



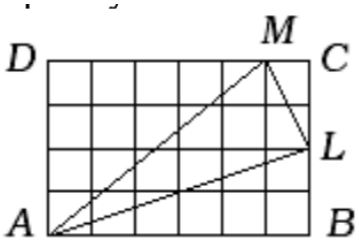
A) The sides of the large rectangle are 20m and 16m. All 6 shaded rectangles have the same shape and area (in square metres). What is the total area, in square metres, of all the shaded regions?



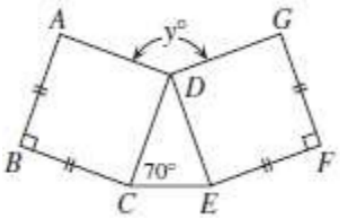
B) All 5 circles have the same radius. The combined area of the shaded regions is 128π . What is the area of the square?



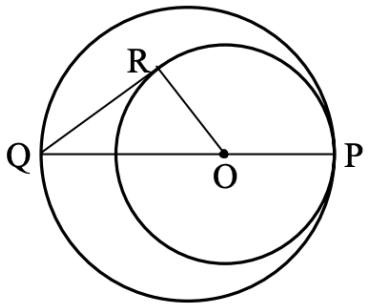
C) ABCD is a rectangle and each of the small squares has side 1. What is the length of the largest side of triangle ALM ? Express your answer in simplest radical form.



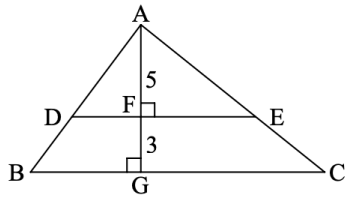
D) The 2 squares below have the same area. What is the value of the angle (in degrees) marked by the letter y ?



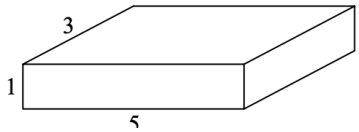
E) In the diagram, a circle of radius 6 is internally tangent at P to a circle of radius 8. PQ is a diameter of the larger circle, QR is tangent to the smaller circle, and OR is a radius of the smaller circle. Find the area of the triangle OQR.



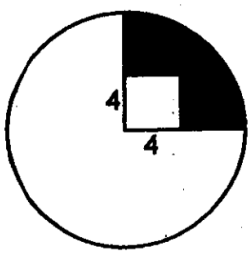
F) In the diagram, BCED is a trapezoid. The length of DE is 10. The line segment AG is a height of the large triangle, and it intersects DE at F. Also given: AF= 5, and FG= 3. Find the area of the trapezoid.



G) The rectangular box, as shown in the diagram, has sides 1, 3, and 5. What is the surface area of the box?



H) The radius of the circle is 8cm. The side of the square is 4cm. Find the area of the shaded region (in cm^2) rounded to the nearest whole number.



I) ABCD is a trapezoid (AB parallel to CD). AB=8cm and CD= 20cm. The area of the triangle BCD is $95cm^2$. Find the area of the trapezoid (in cm^2).