1.9 Rounding and circle area

1. Write these formulas and definitions in your notebook:
   - The radius, r, is the distance from the center to the edge of a circle.
   - The diameter, D, is the distance all of the way across a circle, two times the radius. $D = 2r$.
   - The circumference, C, is the distance around the circle (its perimeter).

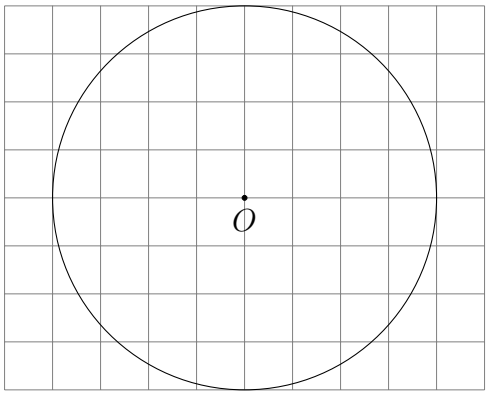
$$A = \pi r^2$$

$$C = 2\pi r$$

2. Given the circle centered at O with radius $r = 4$. Leave an exact answer, in terms of π.

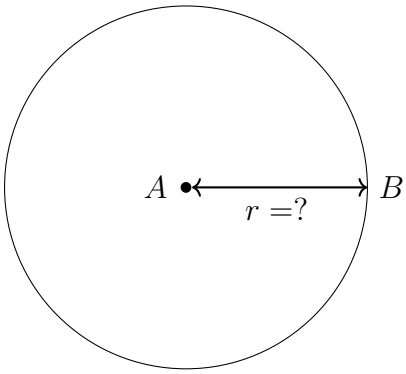
   (a) Find the circumference of circle O.

   (b) Find the area of the circle.



3. Find the area A of a circle with radius 13 inches to the *nearest square inch*.

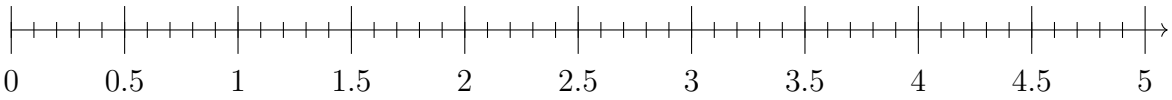
4. Given circle O with area $A = 64\pi$ square centimeters. Find the radius, $AB = r$.



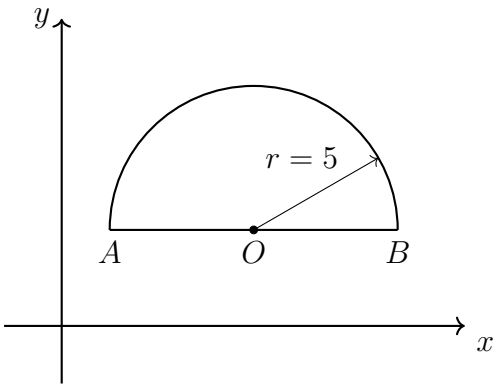
Start with the formula

$A = \pi r^2 = 64\pi$

5. In mathematics we commonly use the special, irrational number, $\pi = 3.14159265358....$ Mark and label π on the number line below.



6. A semicircle is half of a circle, as shown below. The given semicircle has a radius of $r = 5$. Round your answers to the *nearest tenth*.



(a) Find the diameter, $D = AB$.

(b) Find the perimeter (the half circumference plus the diameter)

(c) Find the area of the semicircle.

7. Find the area of the shape shown below composed of a rectangle and semicircular cap. Leave your answer as an exact value in terms of π.