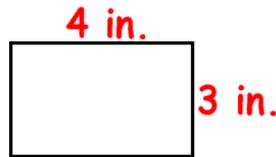
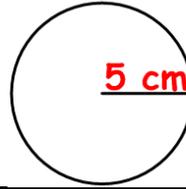


Aim: How do we find the perimeter and area of figures composed of polygons and circles?

Do Now: 1. Find the perimeter and area of the shape below.

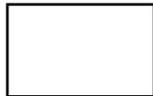


2. Find the circumference and area of the circle below. Leave your answers in terms of π .

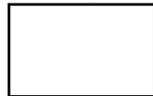


3. What are the formulas for perimeter and area of rectangles and circles?

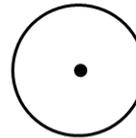
a. Perimeter of a rectangle



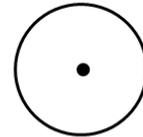
b. Area of a rectangle



c. Circumference of a circle



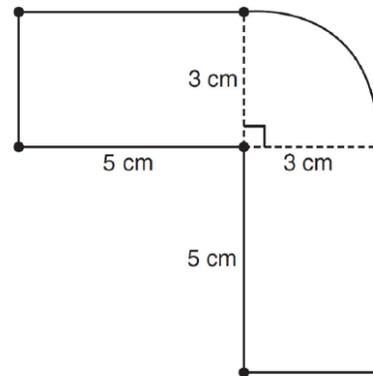
d. Area of a circle



4. A playground in a local community consists of a rectangle and two semicircles, as shown in the diagram below. Write an expression that represents the amount of fencing, in yards, that would be needed to completely enclose the playground. Leave your answer in terms of π .



5. The figure shown below is composed of two rectangles and a quarter circle. What is the area of this figure, to the nearest square centimeter?



Formula for Area of a Trapezoid
(it will be given to you on the Regents):

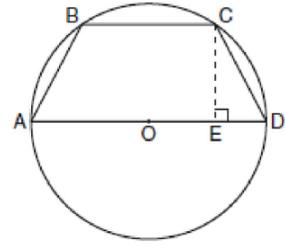
$$A = \frac{1}{2}h(b_1 + b_2)$$



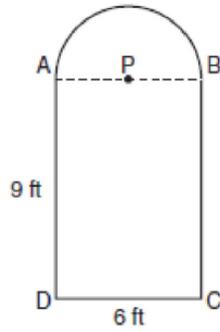
6. Find the area and perimeter of the isosceles trapezoid below:



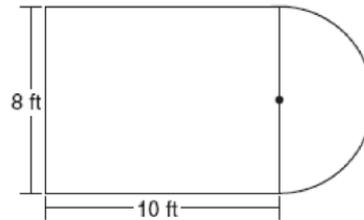
7. In the diagram below, the circumference of circle O is 16π inches. The length of BC is three-quarters of the length of diameter AD and $CE = 4$ inches. Calculate the area, in square inches, of trapezoid $ABCD$.



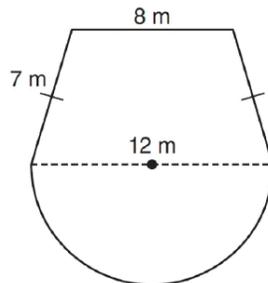
8. Serena's garden is a rectangle joined with a semicircle, as shown in the diagram below. Line segment AB is the diameter of semicircle P . Serena wants to put a fence around her garden. Calculate the length of fence Serena needs to the nearest tenth of a foot.



9. Luisa is going to paint a basketball court on her driveway, as shown in the diagram below. This basketball court consists of a rectangle and a semicircle. Write an expression, in terms of π , that represents the area of this basketball court, in square feet.



10. A garden is in the shape of an isosceles trapezoid and a semicircle, as shown in the diagram below. A fence will be put around the perimeter of the entire garden. Express, in terms of π , the exact length of fencing, in meters, that will be needed.



11. A designer created the logo shown below. The logo consists of a square and four quarter-circles of equal size. Express, in terms of π , the exact area, in square inches, of the shaded region.

