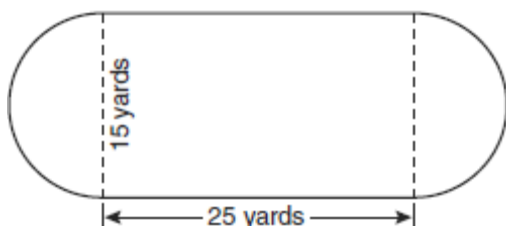


NAME: \_\_\_\_\_

*A.G.1: Find the area and/or perimeter of figures composed of polygons and circles or sectors of a circle. Note: Figures may include triangles, rectangles, squares, parallelograms, rhombuses, trapezoids, circles, semi-circles, and regular polygons (perimeter only).*

1. 080924ia, P.I. A.G.1

A playground in a local community consists of a rectangle and two semicircles, as shown in the diagram below.

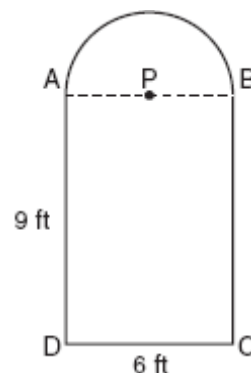


Which expression represents the amount of fencing, in yards, that would be needed to completely enclose the playground?

- [A]  $30\pi + 80$       [B]  $15\pi + 50$   
[C]  $15\pi + 80$       [D]  $30\pi + 50$

2. fall0733ia, P.I. A.G.1

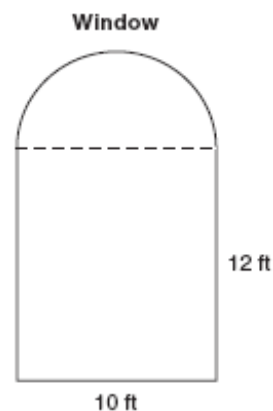
Serena's garden is a rectangle joined with a semicircle, as shown in the diagram below. Line segment  $AB$  is the diameter of semicircle  $P$ . Serena wants to put a fence around her garden.



Calculate the length of fence Serena needs to the nearest tenth of a foot.

3. 010931ia, P.I. A.G.1

A window is made up of a single piece of glass in the shape of a semicircle and a rectangle, as shown in the diagram below. Tess is decorating for a party and wants to put a string of lights all the way around the outside edge of the window.

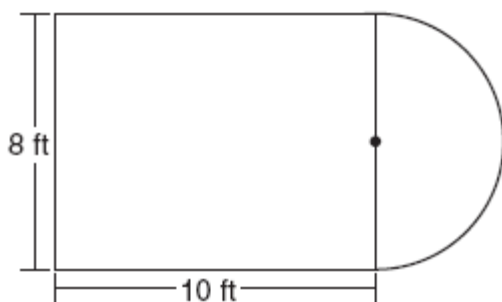


To the nearest foot, what is the length of the string of lights that Tess will need to decorate the window?

NAME: \_\_\_\_\_

4. 080815ia, P.I. A.G.1

Luis is going to paint a basketball court on his driveway, as shown in the diagram below. This basketball court consists of a rectangle and a semicircle.

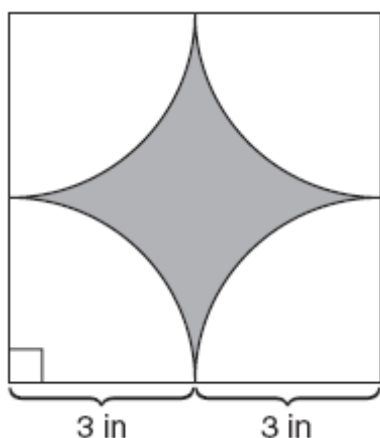


Which expression represents the area of this basketball court, in square feet?

- [A] 80                      [B]  $80 + 64\pi$   
[C]  $80 + 16\pi$             [D]  $80 + 8\pi$

5. 060832ia, P.I. A.G.1

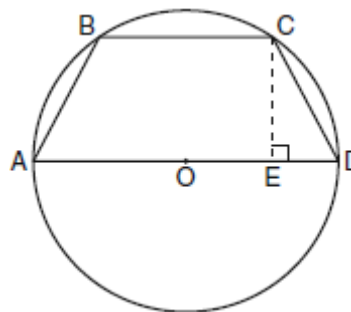
A designer created the logo shown below. The logo consists of a square and four quarter-circles of equal size.



Express, in terms of  $\pi$ , the exact area, in square inches, of the shaded region.

6. 060934ia, P.I. A.G.1

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



*A.G.1: Find the area and/or perimeter of figures composed of polygons and circles or sectors of a circle. Note: Figures may include triangles, rectangles, squares, parallelograms, rhombuses, trapezoids, circles, semi-circles, and regular polygons (perimeter only).*

[1] B

[2] 33.4, and appropriate work is shown.

[1] Appropriate work is shown, but one computational or rounding error is made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] 33.4, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[2] incorrect procedure.

[2] 50, and appropriate work is shown.

[1] Appropriate work is shown, but one computational or rounding error is made.

or [1] Appropriate work is shown, but one conceptual error is made,

or [1] 50, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[3] incorrect procedure.

[4] D

[2]  $36 - 9\pi$  or  $36 - 3^2\pi$ , and appropriate work is shown.

[1] Appropriate work is shown, but one computational error is made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] Appropriate work is shown, but the answer is not expressed in terms of  $\pi$ .

or [1]  $36 - 9\pi$ , but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[5] incorrect procedure.

[3] 56, and appropriate work is shown.

[2] Appropriate work is shown, but one computational error is made.

or [2] Appropriate work is shown to find

$A = \frac{1}{2}(4)(12 + 16)$  or an equivalent equation,

but no further correct work is shown.

[1] Appropriate work is shown, but two or more computational errors are made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] Appropriate work is shown to find  $AD=16$  and  $BC=12$ , but no further correct work is shown.

or [1] 56, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[6] incorrect procedure.