

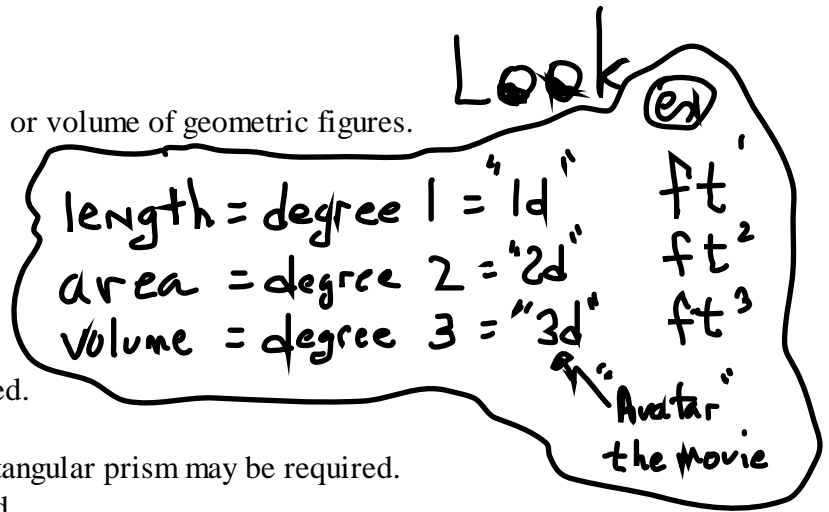
**STANDARD IV:** The student will be able to apply formulas.

**OBJECTIVE**

1. Find the perimeter, circumference, area, or volume of geometric figures.

**ELIGIBLE CONTENT**

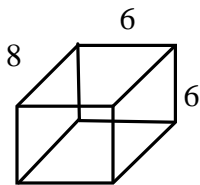
- The value of pi ( $\pi$ ) will be 3.14.
- Options may be left in terms of  $\pi$ .
- Unnecessary dimensions may be included.
- Drawings may be used.
- Finding volume or surface area of a rectangular prism may be required.
- Extracting a square root may be required.
- Determining the area of a circle when given the diameter in the drawing may be required.
- The formulas will be given in the problems.



**SAMPLE ITEMS**

- 1** What is the total surface area of the rectangular prism shown below?

Use  $SA = 2(wh + lh + lw)$ .



- A 80
- B 132
- C 264
- D 288

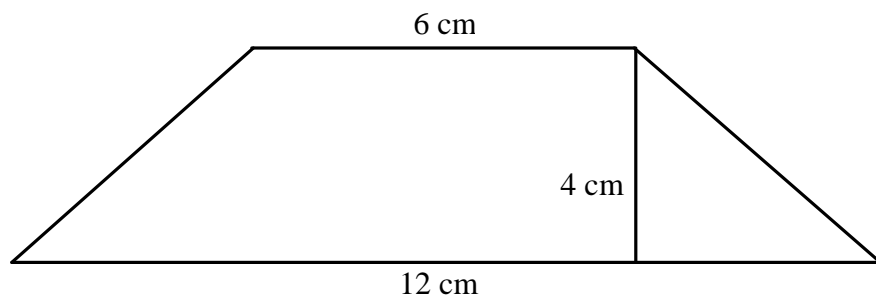
- 2** The dimensions of a new football field are 55 yards by 120 yards. Three inches of topsoil will be added to the field. What is the volume of topsoil needed to cover the field?

Use  $V = lwh$ .

- A 275 cubic yards
- B 550 cubic yards
- C 13,200 cubic yards
- D 19,800 cubic yards

- 3** What is the area of this figure?

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

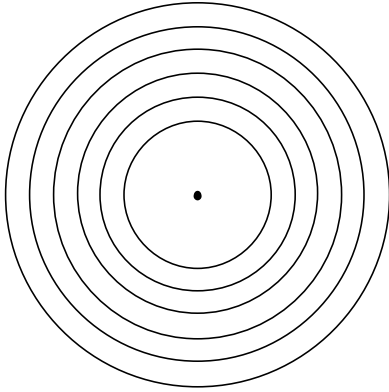


- A** 18 square centimeters  
**B** 24 square centimeters  
**C** 36 square centimeters  
**D** 48 square centimeters
- 4** A painter was hired to paint a fence. The total length of the fence is 50 feet. Each board is 8 feet tall,  $\frac{1}{2}$  foot wide, and  $\frac{1}{10}$  foot thick. Only one side of the fence is going to be painted. What is the area of the part of the fence that will be painted?
- Use  $A = lw$ .
- A** 20 square feet  
**B** 40 square feet  
**C** 200 square feet  
**D** 400 square feet
- 5** If a circular pool has a diameter of 20 feet, what is the area of the pool to the nearest square foot?
- Use  $A = pr^2$  and  $p = 3.14$ .
- A** 31 square feet  
**B** 63 square feet  
**C** 314 square feet  
**D** 1256 square feet

**6**

A target has a center circle with a three-inch radius and five outer rings. Each ring is one inch wide. What is the circumference of the largest circle?

Use  $C = 2\pi r$ .

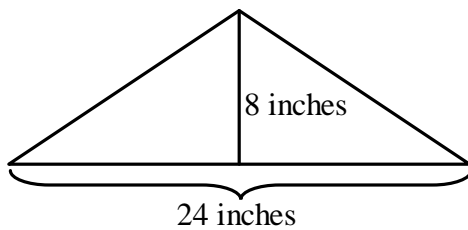


- A  $6\pi$  inches
- B  $11\pi$  inches
- C  $16\pi$  inches
- D  $18\pi$  inches

**7**

What is the area of the triangle shown in the diagram below?

Use  $A = \frac{1}{2}bh$ .



- A 48 square inches
- B 96 square inches
- C 192 square inches
- D 384 square inches