

10 Area Measurement

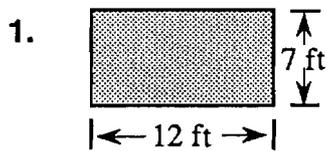
SKILLS CHECK

Complete and score the following skills test. Each section should be scored separately in the box provided to the right. For Section 10.1, a score of 8 or above indicates you are sufficiently strong in that concept. A score of 7 or below indicates a review of that section is advisable. For Sections 10.2 and 10.3, a score of 4 or above indicates you are sufficiently strong in that concept. A score of 3 or below indicates a review of that section is advisable.

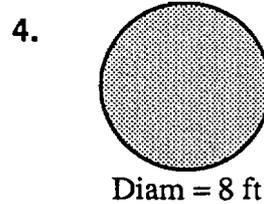
10.1 Areas—Basic Shapes

Number Correct

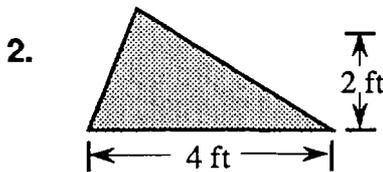
Calculate the sq ft areas for the figures shown below.



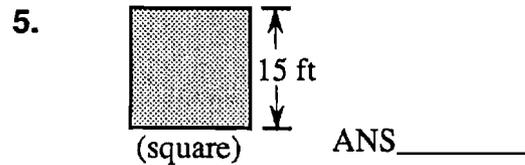
ANS _____



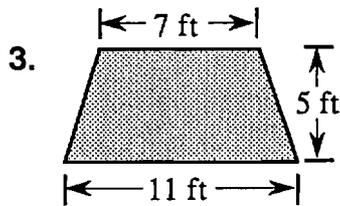
ANS _____



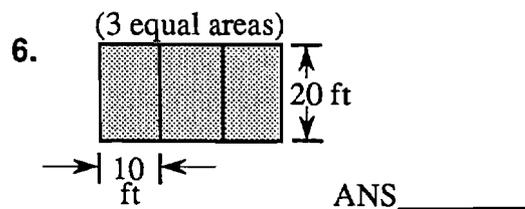
ANS _____



ANS _____



ANS _____



ANS _____

Solve the following problems, as indicated.

7. A clarifier is 75 ft long and has a surface area of 1875 sq ft. What is the width of the clarifier?

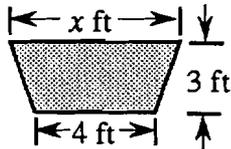
ANS _____

8. What is the sq in. cross section of an 8-inch pipe?

ANS _____

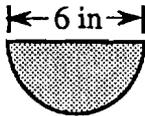
The Division of Water Quality makes no claim as the accuracy of any answers provided herein.

9. The cross section of a trapezoidal channel is shown below. Given the dimensions as shown, what is the distance across the top of the water? (Area = 21 sq ft)



ANS _____

10. What is the cross-sectional area (sq in) of the trough shown below?

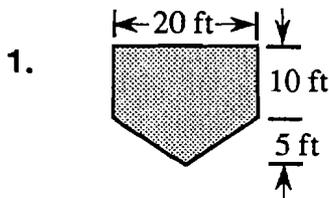


ANS _____

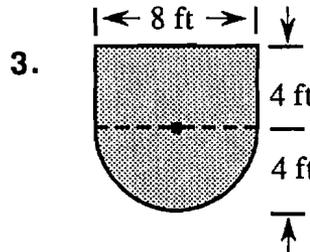
10.2 Areas—Combined Shapes

Number
Correct

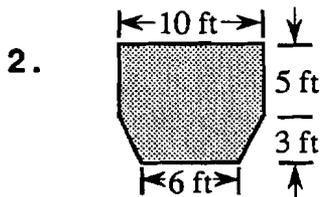
□ Calculate the sq ft areas for the figures shown below.



ANS _____



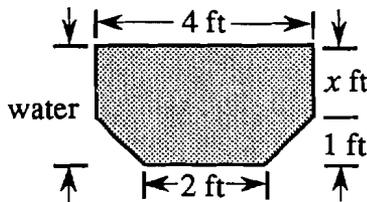
ANS _____



ANS _____

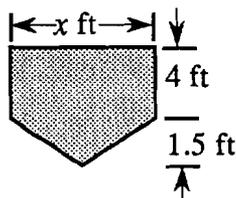
□ Solve the following problems, as indicated.

4. What is the total depth of water in the channel, given the information shown below.
(Total Area = 8 sq ft)



ANS _____

5. What is the length of x in the diagram shown below?



Total Area = 38 sq ft

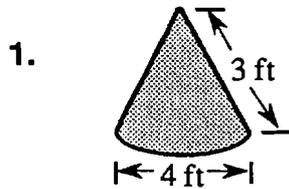
ANS _____

10.3 Lateral Areas

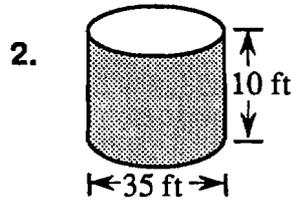
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 Number
Correct

- Calculate the lateral area for each figure shown below.



ANS _____



ANS _____



ANS _____

- Complete the following problems, as indicated.

4. The lateral area of a cylinder is 628 sq ft. If the height of the tank is 8 ft, what is the length of its diameter?

ANS _____

5. The diameter of a cone is 6 ft. If the lateral area of the cone is 47 sq ft, what is the slant height of the cone?

ANS _____

11 Volume Measurement

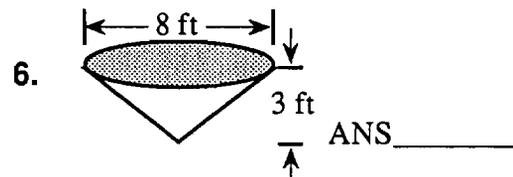
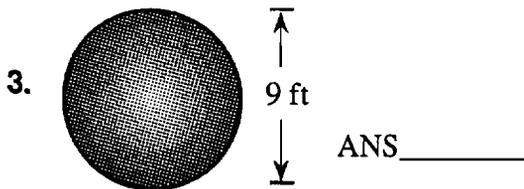
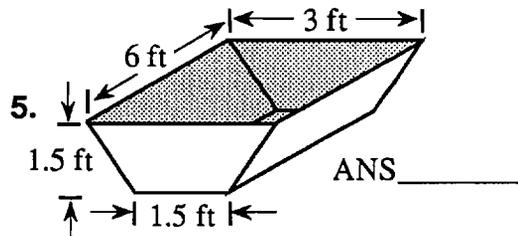
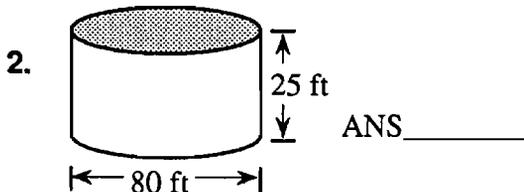
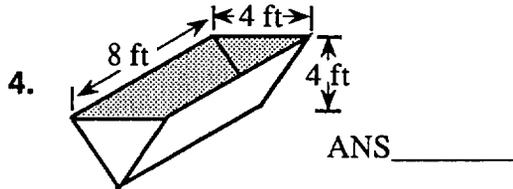
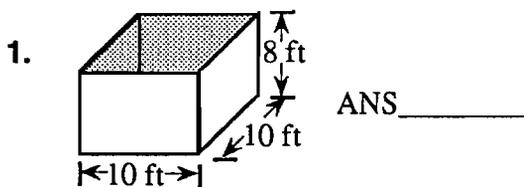
SKILLS CHECK

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11.1 Volumes—Basic Shapes

Number
Correct

□ Calculate the cubic feet volume of the figures shown below.



□ Solve the following problems, as indicated.

7. A circular clarifier has a diameter of 40 ft. If the cu ft capacity of the clarifier is 18,840 cu ft, what is the maximum water depth in the tank?

ANS _____

8. A rectangular basin containing 26,400 cu ft of water has a length of 80 ft and is 30 ft wide. What is the depth of water in the tank?

ANS _____

(Continued)

9. A triangular trough 3 ft wide and 10 ft long contains 30 cu ft of water. What is the depth of the water in the trough.

ANS _____

10. What is the cu ft capacity of a 5-foot section of a 2-ft diameter pipe?

ANS _____

11.2 Volumes—Combined Shapes



Number
Correct

Calculate the cubic feet capacity for each figure shown below.

