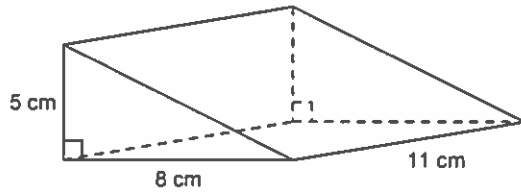


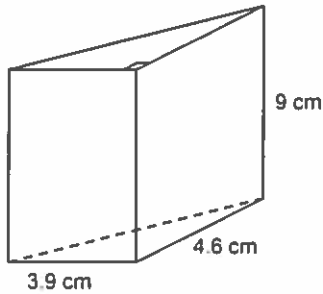
Volume: Triangular Prisms

Short Answer

1. Calculate the volume of this triangular prism.

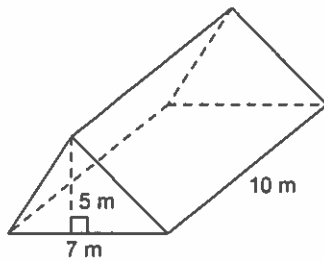


2. Calculate the volume of this triangular prism.



3. An ornamental fish pond is in the shape of a right triangular prism. The base of the pond is a right isosceles triangle with each leg 6 m long. If the pond contains 28.8 m^3 of water, what is the depth of water in the pond?

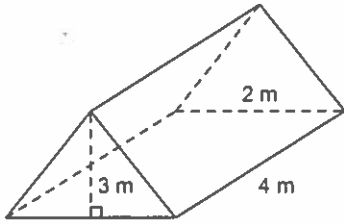
4. Find the volume of this triangular prism.



Name: _____

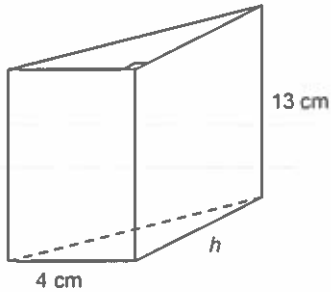
ID: A

5. Find the volume of this triangular prism.



6. The area of the base of a right triangular prism is 14.5 cm^2 and the length of the prism is 6 cm. Calculate the volume of the prism.
-

7. The volume of this triangular prism is 78 cm^3 . Find the value of h .



8. A triangular prism of volume 72 cm^3 has a right triangular base. The 2 legs of the base triangle measure 2 cm and 6 cm. What is the length of the prism? Show your work.
-

9. A right triangular prism has length 10 cm. The edges of the base measure 4 cm, 6 cm, and 7.2 cm. Find the volume and surface area of the prism. Show your work.

Volume: Triangular Prisms

Answer Section

SHORT ANSWER

1. ANS:

The volume of the prism is 220 cm^3 .

PTS: 1

DIF: Easy

REF: 4.6 Volume of a Right Triangular Prism

LOC: 8.SS4

TOP: Shape and Space (Measurement)

KEY: Conceptual Understanding

2. ANS:

The volume of the prism is 80.73 cm^3 .

PTS: 1

DIF: Moderate

REF: 4.6 Volume of a Right Triangular Prism

LOC: 8.SS4

TOP: Shape and Space (Measurement)

KEY: Conceptual Understanding

3. ANS:

The depth of the water is 1.6 m.

PTS: 1

DIF: Moderate

REF: 4.6 Volume of a Right Triangular Prism

LOC: 8.SS4

TOP: Shape and Space (Measurement)

KEY: Conceptual Understanding | Problem-solving Skills

4. ANS:

175 m^3

PTS: 1

DIF: Easy

REF: 4.6 Volume of a Right Triangular Prism

LOC: 8.SS4

TOP: Shape and Space (Measurement)

KEY: Conceptual Understanding

5. ANS:

12 m^3

PTS: 1

DIF: Easy

REF: 4.6 Volume of a Right Triangular Prism

LOC: 8.SS4

TOP: Shape and Space (Measurement)

KEY: Conceptual Understanding

6. ANS:

87 cm^3

PTS: 1

DIF: Moderate

REF: 4.6 Volume of a Right Triangular Prism

LOC: 8.SS4

TOP: Shape and Space (Measurement)

KEY: Conceptual Understanding

7. ANS:

3 cm

PTS: 1

DIF: Moderate

REF: 4.6 Volume of a Right Triangular Prism

LOC: 8.SS4

TOP: Shape and Space (Measurement)

KEY: Conceptual Understanding

PROBLEM

8. ANS:

$$\text{Volume } V = \frac{1}{2} bhl$$

$$\frac{1}{2} \times 2 \times 6 \times l = 72$$

$$12l = 72 \times 2$$

$$= 144$$

$$l = \frac{144}{12} = 12$$

The length of the prism is 12 cm.

PTS: 1

DIF: Moderate

REF: 4.6 Volume of a Right Triangular Prism

LOC: 8.SS4

TOP: Shape and Space (Measurement)

KEY: Communication

9. ANS:

$$\text{Volume of prism: } V = \frac{1}{2} bhl$$

$$= \frac{1}{2} \times 4 \times 6 \times 10$$

$$= 120$$

The volume of the prism is 120 cm³.

$$\text{Total area of 2 bases} = 2 \times \frac{1}{2} \times 4 \times 6$$

$$= 24$$

$$\text{Total area of 3 rectangular faces} = (4 \times 10) + (6 \times 10) + (7.2 \times 10)$$

$$= 40 + 60 + 72$$

$$= 172$$

$$\text{Sum of the areas: } 24 + 172 = 196$$

The surface area of the prism is 196 cm².

PTS: 1

DIF: Difficult

REF: 4.6 Volume of a Right Triangular Prism

LOC: 8.SS4

TOP: Shape and Space (Measurement)

KEY: Communication