



Math Virtual Learning

Grade 7/ Surface Area of Triangular Prisms

May 13, 2020



Grade 7/Surface Area of Triangular Prisms

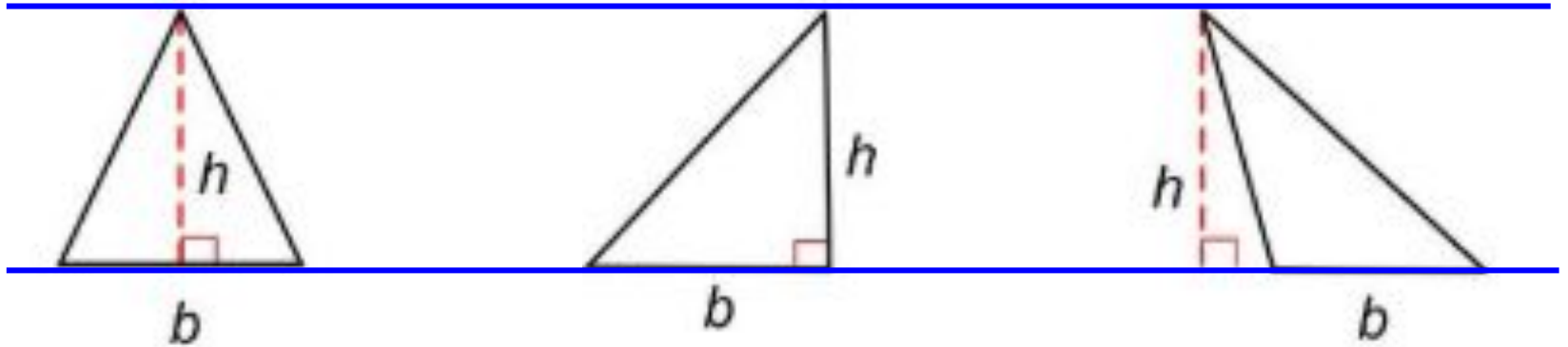
Lesson: May 13, 2020

Objective/Learning Target:
Find surface area of triangular prisms.

Let's Get Started:
Watch Video: [Triangular Prism](#)

Practice: Heights of Triangles

In all of the triangles below, h (height) is the same, but in different locations.



For an acute triangle, the height typically is found in the middle of the triangle.

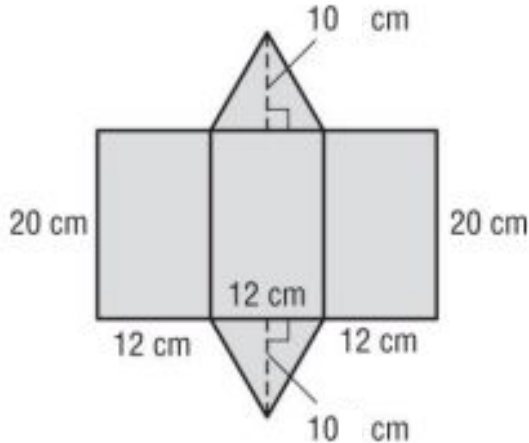
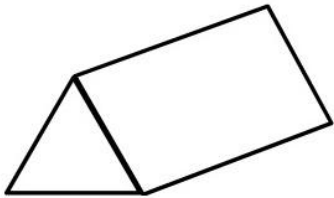
For a right triangle, the height is one of the legs because they are already perpendicular to each other.

For an obtuse triangle, the height could be outside of the triangle.

Practice:

Find the surface area of the triangular prism.

Triangular Prism



Triangle Faces

$$\frac{1}{2} b \times h = \text{area}$$

$$\frac{1}{2}(12) \times 10 = \text{area}$$

$$6 \times 10 = \text{area}$$

$$60 = \text{area of one triangle}$$

$$60 \times 2 = \text{area of two triangles}$$

$$120 = \text{area of two triangles}$$

Add All Faces

$$120 + 720 = \text{surface area}$$

$$840 \text{ cm}^2 = \text{surface area of the triangular prism}$$

Rectangle Faces

$$l \times w = \text{area} \quad \text{or} \quad b \times h = \text{area}$$

$$20 \times 12 = \text{area}$$

$$240 = \text{area of one rectangle}$$

$$240 \times 3 = \text{area of three rectangles}$$

$$720 = \text{area of three rectangles}$$

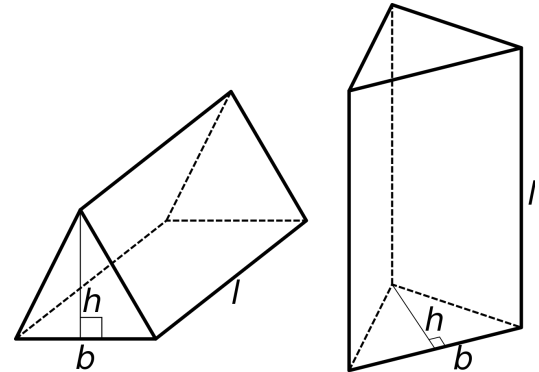
Correct Answer

Practice:

Go to this website:

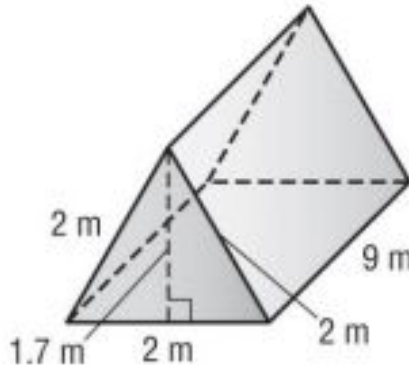
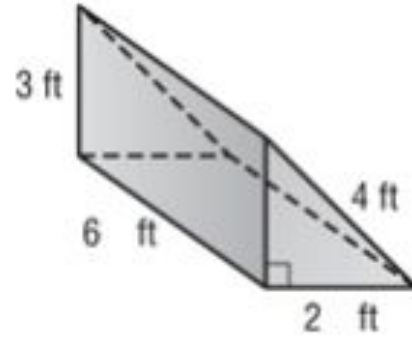
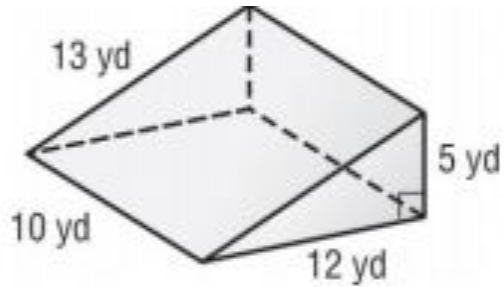
[Triangular Prisms](#)

1. The first two slides are notes or reminders. Read and click “OK”.
2. Starting on slide 3, look at the questions and figures carefully.
3. Solve the problem.
4. Type in your answer and click “OK”.



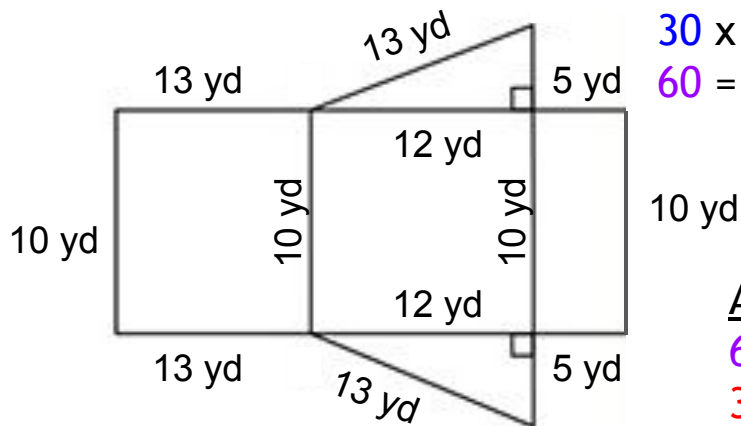
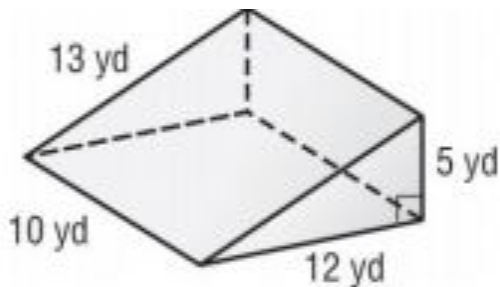
Practice:

Answer the questions on a piece of paper.
Find the surface area of the triangular prism.



Answer Key:

Once you have completed the problems, check your answers here.



Triangle Faces

$$\frac{1}{2} b \times h = \text{area}$$

$$\frac{1}{2}(12) \times 5 = \text{area}$$

$$6 \times 5 = \text{area}$$

$$30 = \text{area of one triangle}$$

$$30 \times 2 = \text{area of two triangles}$$

$$60 = \text{area of two triangles}$$

Rectangle Faces

$$l \times w = \text{area} \quad \text{or} \quad b \times h = \text{area}$$

$$10 \times 13 = \text{area}$$

$$130 = \text{area of rectangle 1}$$

$$10 \times 12 = \text{area}$$

$$120 = \text{area of rectangle 2}$$

$$10 \times 5 = \text{area}$$

$$50 = \text{area of rectangle 3}$$

$$130 + 120 + 50 = \text{area of three rectangles}$$

$$300 = \text{area of three rectangles}$$

Add All Faces

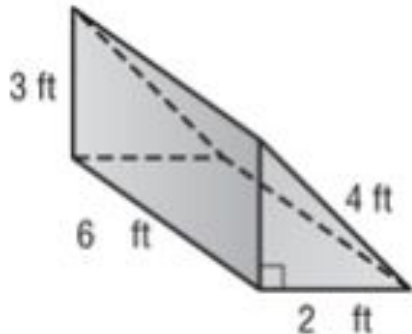
$$60 + 300 = \text{surface area}$$

$$360 \text{ yd}^2 = \text{surface area of the triangular prism}$$

Correct Answer

Answer Key:

Once you have completed the problems, check your answers here.



Triangle Faces

$$\frac{1}{2} b \times h = \text{area}$$

$$\frac{1}{2}(2) \times 3 = \text{area}$$

$$1 \times 3 = \text{area}$$

3 = area of one triangle

$$3 \times 2 = \text{area of two triangles}$$

6 = area of two triangles

Rectangle Faces

$$l \times w = \text{area} \quad \text{or} \quad b \times h = \text{area}$$

$$6 \times 3 = \text{area}$$

18 = area of rectangle 1

$$6 \times 2 = \text{area}$$

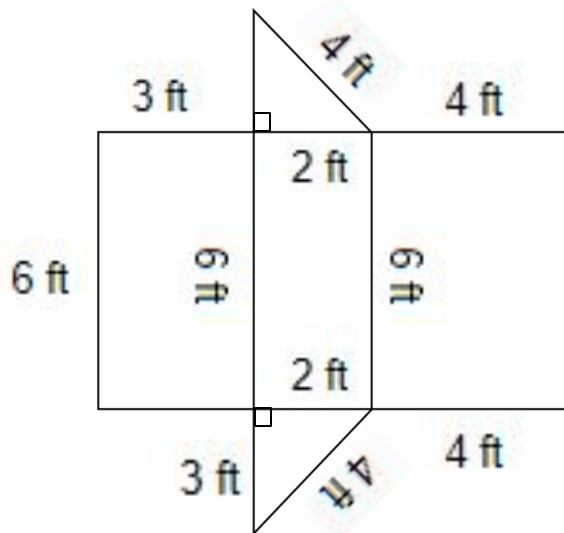
12 = area of rectangle 2

$$6 \times 4 = \text{area}$$

24 = area of rectangle 3

18+12+24 = area of three rectangles

54 = area of three rectangles



Add All Faces

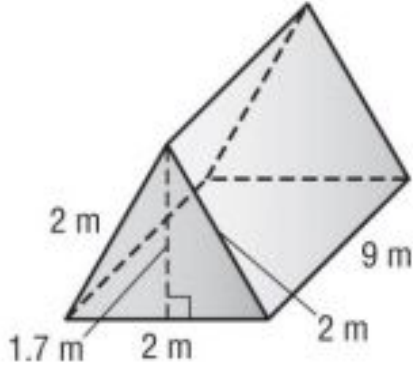
$$6 + 54 = \text{surface area}$$

$$60 \text{ ft}^2 = \text{surface area of the triangular prism}$$

Correct Answer

Answer Key:

Once you have completed the problems, check your answers here.



Triangle Faces

$$\frac{1}{2} b \times h = \text{area}$$

$$\frac{1}{2}(2) \times 1.7 = \text{area}$$

$$1 \times 1.7 = \text{area}$$

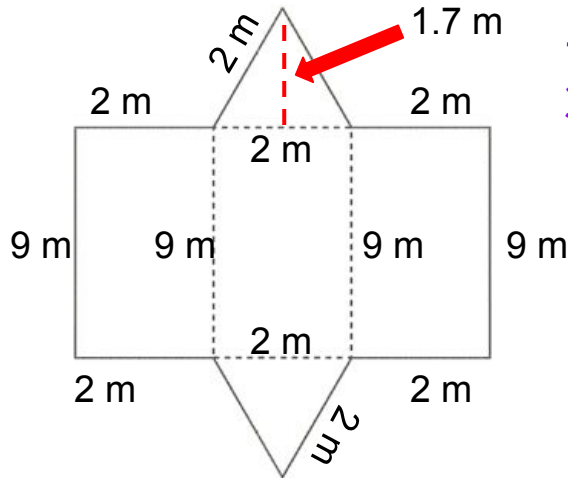
$$1.7 = \text{area of one triangle}$$

Rectangle Faces

$$l \times w = \text{area} \quad \text{or} \quad b \times h = \text{area}$$

$$9 \times 2 = \text{area}$$

$$18 = \text{area of one rectangle}$$



$$1.7 \times 2 = \text{area of two triangles}$$

$$3.4 = \text{area of two triangles}$$

$$18 \times 3 = \text{area of three rectangles}$$

$$54 = \text{area of three rectangles}$$

Add All Faces

$$3.4 + 54 = \text{surface area}$$

$$57.4 \text{ m}^2 = \text{surface area of the triangular prism}$$

Correct Answer

Additional Practice:

Click on the links below to get additional practice and to check your understanding!

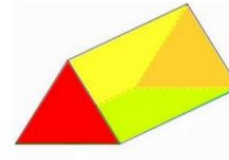
[IXL](#) - Practice

[Quizizz](#) - Practice

[Flexbooks](#) - Practice

The **lateral surface area** is the **area** of all sides excluding the **area** of the base. **Total surface area** of any solid is the sum of **areas** of all the faces of the solid.

Triangular Prism



A 3D Triangular Prism can be unfolded to create a flat 2D shape, called the "Net" of the Prism.

The Net has two triangles plus three rectangles.

