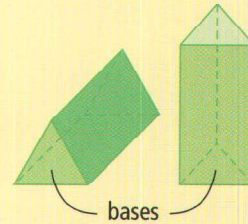


7.30 - Questions Handout #s 1 - 13

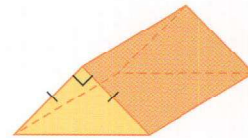
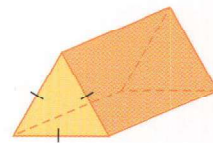
Key Ideas

- The surface area of a triangular prism is the sum of the areas of its faces.
- A triangular prism has two congruent triangular faces and three rectangular faces. The two triangular faces are often called the bases, even though they may not be horizontal.



Communicate the Ideas

1. In an equilateral triangular prism, the two bases are equilateral triangles. What is true about the three rectangular faces?
2. Describe the faces of a right isosceles triangular prism. How would you find its surface area?

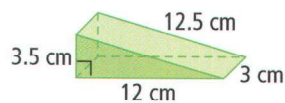


Check Your Understanding

Practise

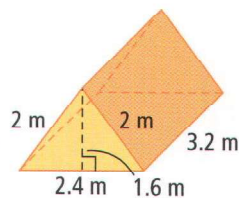
For help with questions 3 and 4, refer to Example 1.

3. A small doorstep is in the shape of a right triangular prism.



- a) What is the area of one triangular face?
- b) What is the total area of the rectangular faces?
- c) What is the surface area of the doorstep?

4. A tent, with attached ground sheet, is an isosceles triangular prism.



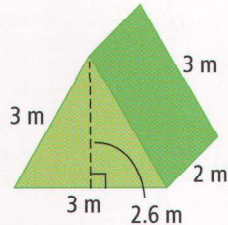
- a) What is the area of one triangular face?
- b) What is the total area of the rectangular faces?
- c) What is the surface area of the tent?

For help with questions 5 to 7, refer to Example 2.

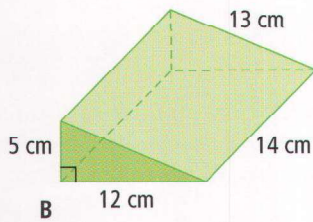
5. A triangular prism has a surface area of 450 cm^2 . What is the total area of the rectangular faces if the total area of the triangular bases is 86 cm^2 ?
6. A triangular prism has a surface area of 200 cm^2 . What is the area of one triangular face if the total area of the rectangular faces is 120 cm^2 ?
7. A triangular prism has a surface area of 1.8 m^2 . If each triangular face has an area of 2500 cm^2 , what is the total area of the rectangular faces, in square metres?

Apply

8. Ellen built a storage shed in the shape of a triangular prism. What area of plywood did she need? The shed has a wooden floor but is open at the front (no front triangular face).



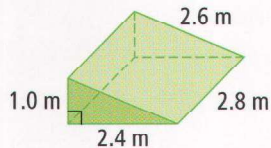
9. a) Which triangular prism do you think has a greater surface area?



- b) Determine the surface area of the two triangular prisms. Was your prediction correct?

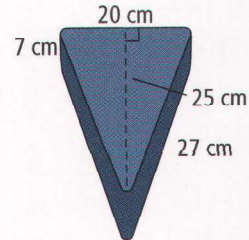
Chapter Problem

10. A steel ramp is a right triangular prism.

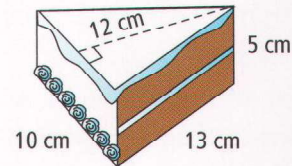


- a) What is the total area of sheet metal needed to make the ramp?
b) What assumptions did you make in part a)?

11. A company makes bicycle seats from metal triangular prisms covered with rubber padding. How much padding is required to cover the seat's entire surface area?



12. The diagram shows the dimensions of a slice of carrot cake. Icing is spread on the top and back of the slice.



- a) What is the surface area of the iced portion of the slice of cake?
b) What is the entire surface area of the slice of cake?
c) What percent of the slice of cake is covered with icing?
13. Dan sketched the tree house he wants to build using scraps of wood. How many square metres of wood will Dan need to build the roof of the tree house, including the gable ends? Round your answer to the nearest square metre.

