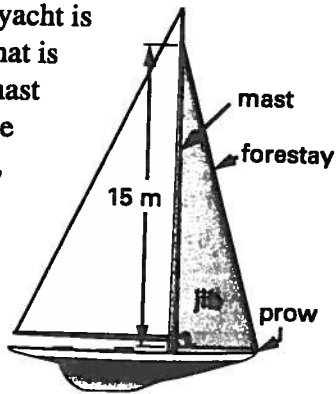
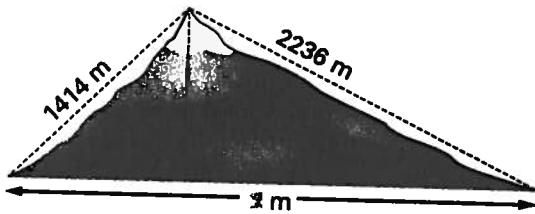


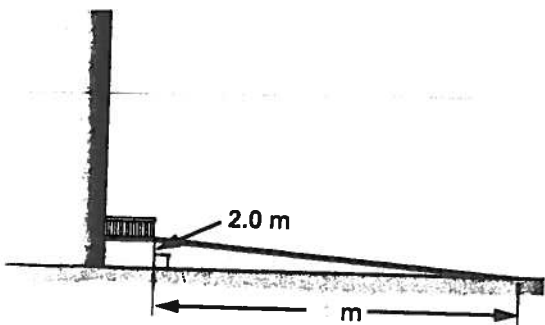
7. The jib sail of a yacht is a right triangle that is attached to the mast and the prow. The sail is 15 m high, and the mast is 4 m from the prow. How long is the forestay?



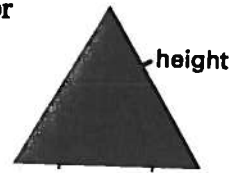
8. A cable car travels 2236 m to climb a mountain that is 1000 m high. It then travels 1414 m to descend 1000 m on the other side of the mountain. A tunnel goes straight through the mountain, from the starting point to the endpoint of the cable car's journey. How long is the tunnel?



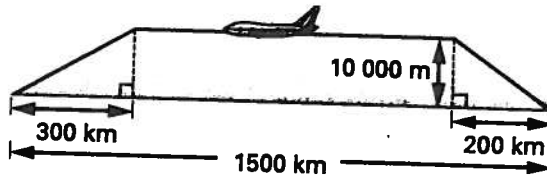
9. A wheelchair ramp must be 12 m long for every metre of height.
- What is the length of a ramp that rises 2.0 m?
 - How long does this ramp extend along the ground? Round your answer to one decimal place.



10. The height of an equilateral triangle is also the perpendicular bisector of its base. Determine the area of an equilateral triangle that has 6.0 cm sides.

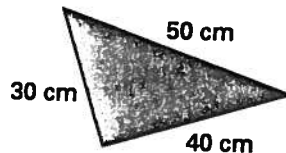


11. An airplane travels about 1500 km in a straight line between Toronto and Winnipeg. However, the plane must climb to 10 000 m during the first 200 km. Then it must descend 10 000 m during the final 300 km.
- How much distance do the climb and descent add to the flight?
 - The airplane averages a speed of 600 km/h. Do climbing and descending 10 000 m add hours, minutes, or seconds to the flight? Explain.



C Extending

12. Determine whether or not this is a right triangle. Justify your conclusion.



13. This diagram shows a cube with 4.0 cm edges. What is the distance from D to F ? Show your work.

