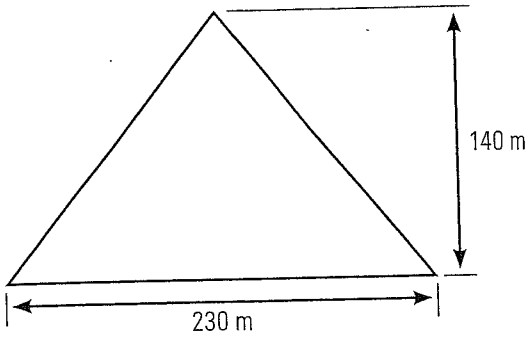
Name:

Ch 7 Review Date:

1. What is the length of a diagonal brace used to support a table that is 120 cm wide by 50 cm tall?

2. The Pyramid of Khufu is approximately 140 metres tall. If the base is a square with sides measuring 230 metres, what is the slant height from the centre of one of the sides of the pyramid? (Hint the slant height is the hypotenuse of a right triangle.)



3. A plane travels 12 km along its flight path while climbing at a constant rate of 8°. What is the vertical change in height during this time?

4. A ramp 12 metres long makes an angle of 15° with the ground. What is the height of the ramp? If the ramp is doubled in length, what will the total height be?

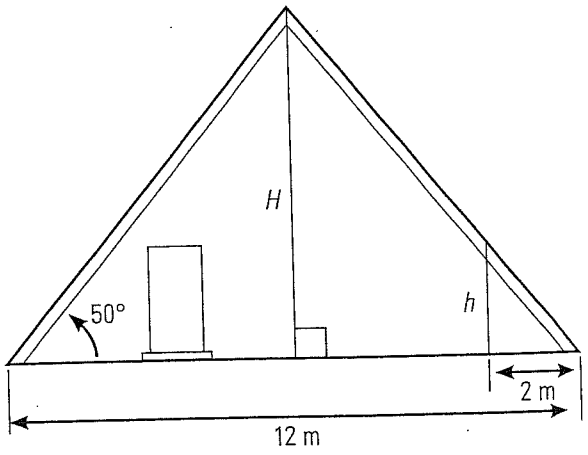
5. A chute from an open window to the ground makes an angle of 52° with the side of a building. If the window is 18 metres from the ground, how long is the chute?

6. A tree casts a shadow that is 10 metres long. If the angle of elevation to the top of the tree from the ground at the end of the shadow is 60°, how high is the tree?

7. The angle of elevation from the bottom of one building to the top of another building is 78°. The angle of elevation from the bottom of the second building to the top of the first is 62°. If the distance between them is 150 metres, how much taller is the higher building than the shorter one?

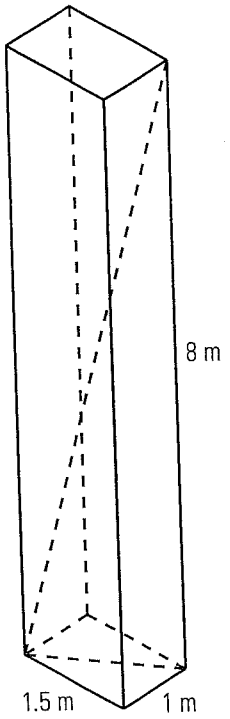
8. In an A-frame building, the angle of elevation of the roof is 50° and the building is 12 metres wide.

   a) How high is the building at the centre?



   b) How high is it 2 metres in from an edge?

9. A box is 1.5 m long, 1.0 m deep, and 8.0 m tall. What is the length of the longest object that can fit in the box?



10. A lifeguard sits in a chair that is 2.5 metres high. He spots a child in trouble in the water at an angle of depression of 23°. How far out from the chair is the child?

11. What is the angle of elevation of a playground slide that is 1.2 m high and has a horizontal length of 2.6 m?

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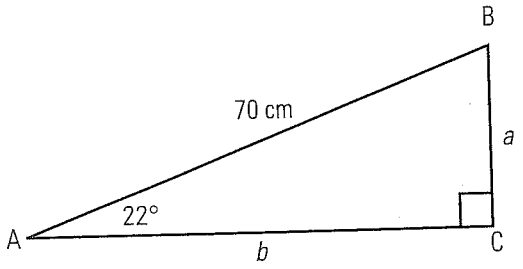
1. a) $\angle A \approx 31°$ b) $\angle B \approx 48°$

2.



$\angle B = 68°$

$a = 26$ cm

$b = 65$ cm

3. about 18.4°

4. about 24.1 ft

5. The driveway is about 4.7 m long. The garage entrance is about 3.6 m into the lot.

6. about 31°

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1. 130 cm

2. about 181 m

3. about 1.67 km

4. The ramp rose about 3.1 m.

   Because of similarity of triangles, a 24-m ramp would rise double that of a 12-m ramp, or about 6.2 m.

5. about 29.2 m

6. about 17.3 m

7. about 423.6 m

8. a) about 7.2 m

   b) about 2.4 m

9. about 8.2 m

10. about 6 m

11. about 25°