

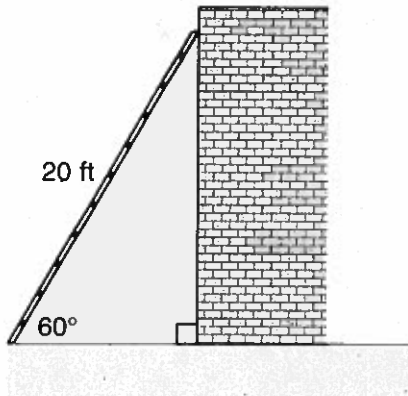
# Chapter 8 SOL Questions 2001-2014

Name: \_\_\_\_\_

Time Start: \_\_\_\_\_ Finish: \_\_\_\_\_

Total Time = \_\_\_\_\_

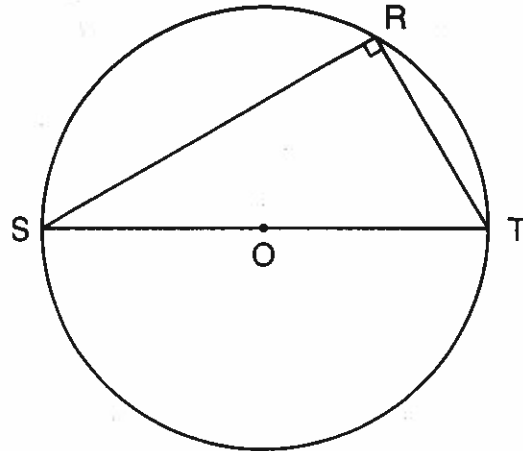
1. (2001 #20)



A 20-foot ladder leaning against a building makes an angle of  $60^\circ$  with the ground. How far from the base of the building is the foot of the ladder?

- F 5 ft
- G 8.2 ft
- H 10 ft
- J 17.3 ft

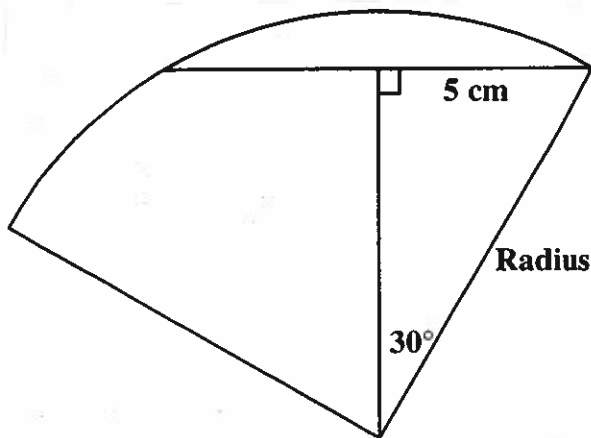
2. (2001 #23)



In circle  $O$ ,  $\angle RST$  formed by chord  $\overline{RS}$  and diameter  $\overline{ST}$  has a measure of  $30^\circ$ . If the diameter is 12 centimeters, what is the length of chord  $\overline{SR}$ ?

- |                   |                  |
|-------------------|------------------|
| A $12\sqrt{3}$ cm | C $6\sqrt{3}$ cm |
| B $12\sqrt{2}$ cm | D $6\sqrt{2}$ cm |

3. (2002 #20)

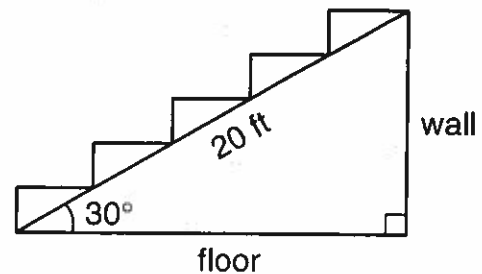


The drawing shows the measurements in a section of a circular design. How long is the radius of the circle?

- F 10 cm
- G 8.7 cm
- H 7 cm
- J 4.3 cm

4. (2002 #21)

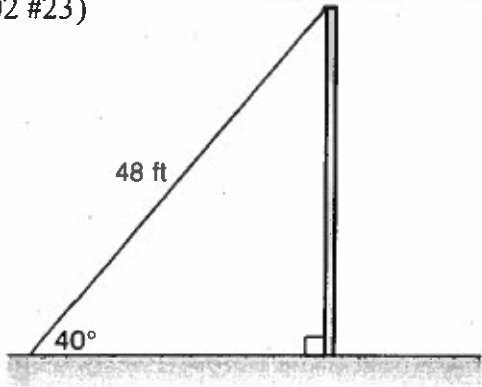
A carpenter is building a flight of stairs as pictured in the drawing.



What is the horizontal distance from the foot of the stairs to the wall?

- A 14.1 ft
- B 17.3 ft
- C 20.0 ft
- D 28.3 ft

5. (2002 #23)



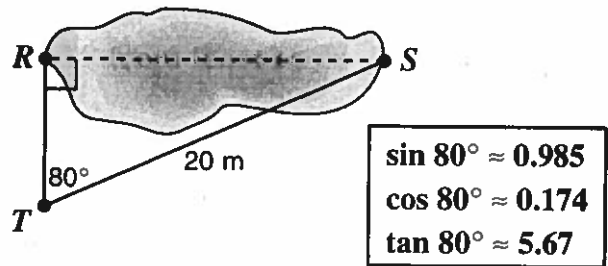
A cable 48 feet long stretches from the top of a pole to the ground. If the cable forms a  $40^\circ$  angle with the ground, which is closest to the height of the pole?

$\sin 40^\circ \approx 0.642$   
 $\cos 40^\circ \approx 0.766$   
 $\tan 40^\circ \approx 0.839$

- A 26.4 ft
- B 30.9 ft
- C 36.8 ft
- D 40.3 ft

6. (2003 #22)

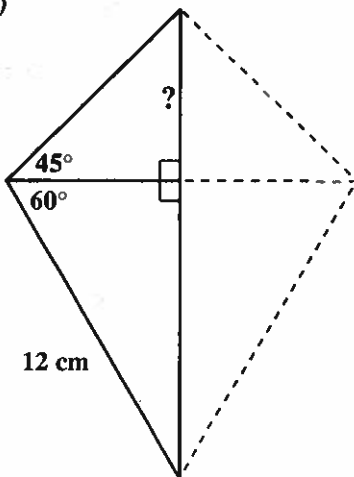
To determine the distance across a pond, Harry made the measurements shown in the diagram.



Which is *closest* to the distance from R to S?

- F 3.48 m
- G 19.7 m
- H 20.3 m
- J 113.4 m

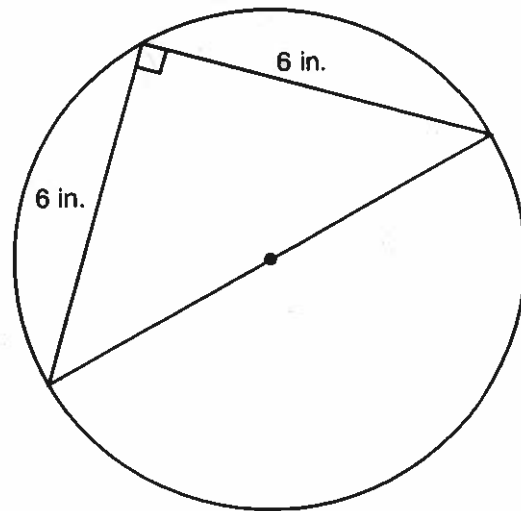
7. (2004 # 22)



A design is formed by joining isosceles right triangles and  $60^\circ$ - $30^\circ$  right triangles as shown in the diagram. If the hypotenuse of the  $60^\circ$ - $30^\circ$  triangle is 12 centimeters, which is *closest* to the length of one leg of the isosceles right triangle?

- F 6 cm
- G 7.2 cm
- H 8.5 cm
- J 10.4 cm

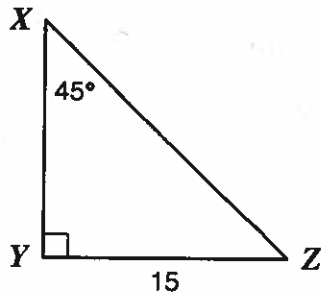
8. (2004 #23)



What is the diameter of the circle shown?

- A  $3\sqrt{2}$  in.
- B  $3\sqrt{3}$  in.
- C  $6\sqrt{2}$  in.
- D  $6\sqrt{3}$  in.

9. (2005 #23)

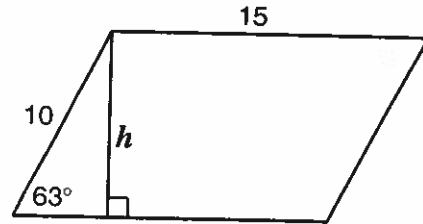


For the triangle represented by the above drawing, what is the length of  $\overline{XZ}$ ?

- A  $7.5\sqrt{2}$
- B  $7.5\sqrt{3}$
- C  $15\sqrt{2}$
- D  $15\sqrt{3}$

10. (2005 #22)

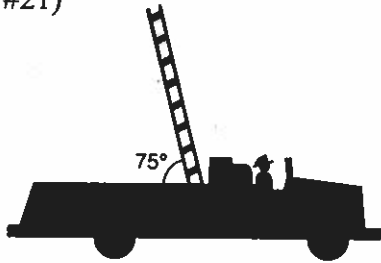
The parallelogram has the measurements shown.



Which is closest to the length of the altitude,  $h$ ?

- F 19.63
- G 8.91
- H 8.67
- J 6.81

11. (2006 #21)



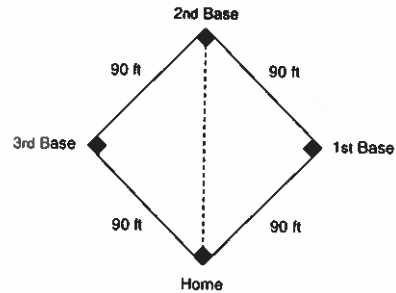
A fire truck has a ladder that can extend to 60 feet in length. The ladder can be safely raised to a maximum angle of  $75^\circ$  with the horizontal. Disregarding the height of the fire truck itself, which is closest to the maximum height that the ladder can safely reach?

$\sin 75^\circ \approx 0.966$ $\cos 75^\circ \approx 0.259$ $\tan 75^\circ \approx 3.73$
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- A 15.53 ft
- B 57.96 ft
- C 60.00 ft
- D 62.12 ft

12. (2007 #22)

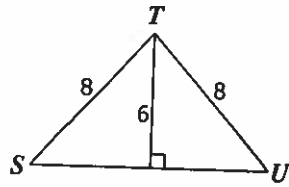
A baseball diamond is in the shape of a square, 90 feet on a side.



What is the direct distance from home plate to second base?

- F 90 ft
- G  $90\sqrt{2}$  ft
- H  $90\sqrt{3}$  ft
- J 180 ft

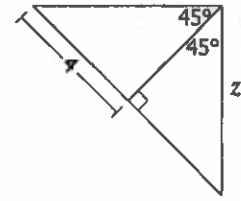
13. (2008 #21)



What is the length of  $\overline{SU}$  ?

- A  $2\sqrt{7}$  cm
- B 7 cm
- C  $4\sqrt{7}$  cm
- D 20 cm

14. (2008 # 22)

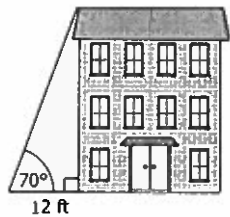


What is the value of  $z$  ?

- F  $2\sqrt{2}$
- G  $2\sqrt{3}$
- H  $4\sqrt{2}$
- J  $8\sqrt{2}$

15. (2008 # 23)

From a point 12 feet from the base of a building, the angle of elevation from the ground to the top of the building is  $70^\circ$ .



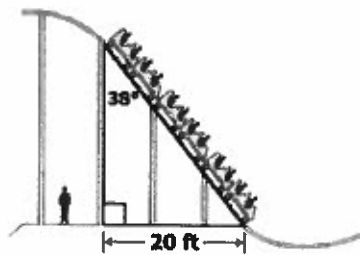
$\sin 70^\circ \approx 0.940$ $\cos 70^\circ \approx 0.342$ $\tan 70^\circ \approx 2.75$
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Which is *closest* to the height of the building?

- A 24 ft
- B 33 ft
- C 35 ft
- D 41 ft

16. (2014 # 28)

A spectator is viewing the six cars of a roller coaster as it travels down a hill at an amusement park.

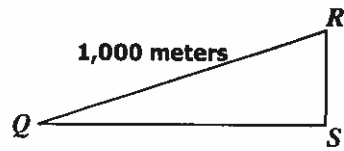


Which is closest to the total length of the six cars?

- A 12.3 ft
- B 15.8 ft
- C 25.6 ft
- D 32.5 ft

17. (2009 #23)

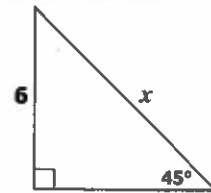
Given:  $\triangle QRS$  where  $m\angle Q = 20^\circ$  and  $m\angle S = 90^\circ$



What is the length, to the nearest meter, of  $\overline{RS}$ ?

- A 342 m
- B 364 m
- C 500 m
- D 940 m

18. (2010 #22)

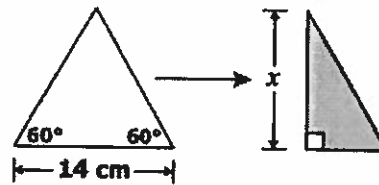


In the figure, what is the value of  $x$ ?

- F 6
- G  $6\sqrt{2}$
- H  $6\sqrt{3}$
- J 12

19. (2014 #25)

An equilateral triangle is folded in half.



What is  $x$ , the height of the equilateral triangle?

- A  $14\sqrt{3}$  cm
- B 14 cm
- C  $7\sqrt{3}$  cm
- D 7 cm