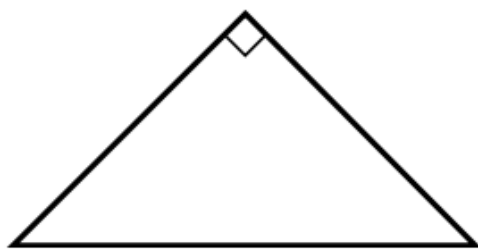


27. What is the perimeter, in inches, of the isosceles right triangle shown below, whose hypotenuse is  $8\sqrt{2}$  inches long?

- A. 8
- B.  $8 + 8\sqrt{2}$
- C.  $8 + 16\sqrt{2}$
- D. 16
- E.  $16 + 8\sqrt{2}$



**72.** A triangle with angles measuring  $30^\circ$ ,  $60^\circ$ , and  $90^\circ$  has a smallest side length of 7. Find the length of the hypotenuse.

f. 14

g.  $7\sqrt{3}$

h. 2

i. 12

j. 18

**70.** The ratio of the side lengths of a right triangle is  $1:1:\sqrt{2}$ . Find the sine of the smallest angle.

**f.**  $\frac{1}{2}$

**g.**  $\frac{\sqrt{2}}{2}$

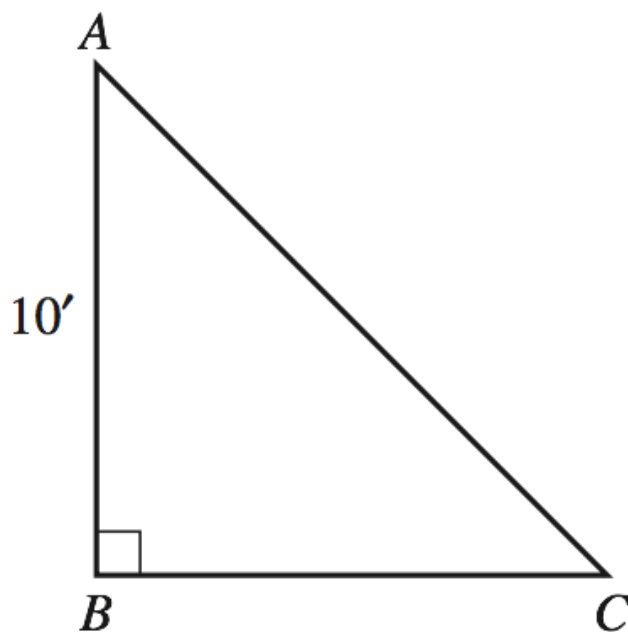
**h.**  $\sqrt{2}$

**i.** 1

**j.** 2

13. In the isosceles right triangle below,  $AB = 10$  feet.  
What is the length, in feet, of  $\overline{AC}$  ?

- A. 5
- B. 10
- C. 20
- D.  $\sqrt{20}$
- E.  $10\sqrt{2}$



**72.** A triangle with angles measuring  $30^\circ$ ,  $60^\circ$ , and  $90^\circ$  has a smallest side length of 7. Find the length of the hypotenuse.

**f.** 14

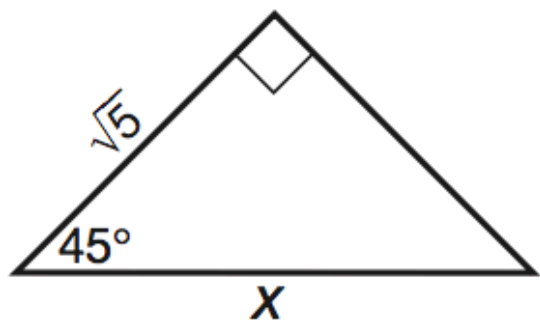
**g.**  $7\sqrt{3}$

**h.** 2

**i.** 12

**j.** 18

**77.** Find the value of  $x$ .



a. 2

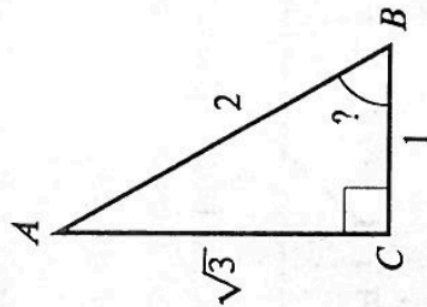
b. 1

c.  $\sqrt{7}$

d.  $\sqrt{10}$

e.  $2\sqrt{5}$

11. What is the measure of  $\angle ABC$  in the triangle below?



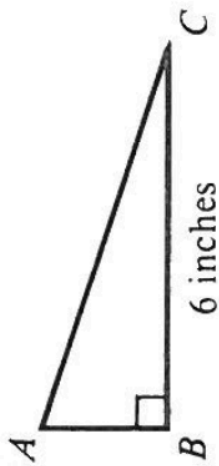
- A.  $15^\circ$
- B.  $30^\circ$
- C.  $45^\circ$
- D.  $60^\circ$
- E.  $75^\circ$

D



If this is a  $90^\circ$  triangle and the sides are  $1, 2 + \sqrt{3}$ , then the angle opposite the  $\sqrt{3}$  side is  $60^\circ$

44. In the right triangle below, if  $\angle C$  has a sine of  $\frac{2}{\sqrt{29}}$ , a cosine of  $\frac{5}{\sqrt{29}}$ , and a tangent of  $\frac{2}{5}$ , how many inches long is  $\overline{AB}$ ?



F.  $\frac{2}{5}$

G.  $\frac{12}{5}$

H.  $\frac{12}{\sqrt{29}}$

J.  $\frac{30}{\sqrt{29}}$

K. 6

The tangent would  
 product a nice proportion  
 to solve for  $\overline{AB}$

$$\frac{\overline{AB}}{6} = \frac{2}{5} \quad 5(\overline{AB}) = 12 \quad \overline{AB} = \frac{12}{5}$$