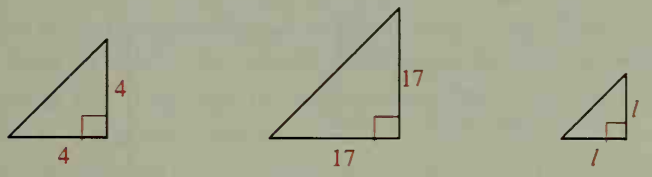
**8.** Three 45°-45°-90° triangles are shown below.

**a.** In each triangle, express tan 45° in simplified form.

**b.** See the entry for tan 45° on page 311. Is the entry exact?

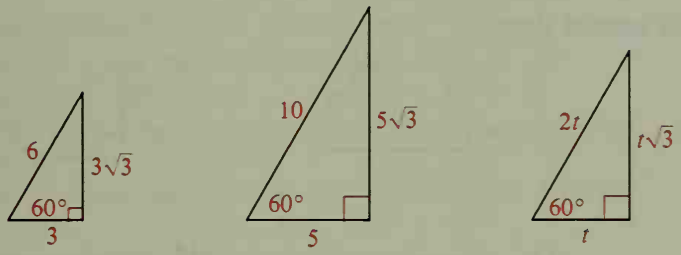



**9.** Three 30°-60°-90° triangles are shown below.

**a.** In each triangle, express tan 60° in simplified radical form.

**b.** Use $\sqrt{3} \approx 1.732051$ to find an approximate value for tan 60°.

**c.** Is the entry for tan 60° on page 311 exact? Is it correct to four decimal places?




**10.** Notice that the tangent values increase rapidly toward the end of the table on page 311. Explain how you know that there is some angle with a tangent value equal to 1,000,000. Is there any upper limit to tangent values?

**11.** Two ways to find the value of $x$ are started below.

Using tan 40°:

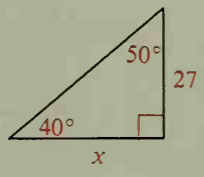
$$\tan 40° = \frac{27}{x}$$

$$0.8391 \approx \frac{27}{x}$$

Using tan 50°:

$$\tan 50° = \frac{x}{27}$$

$$1.1918 \approx \frac{x}{27}$$




Which of the following statements are correct?

**a.** $x \approx 27 \cdot 0.8391$

**b.** $x \approx 27 \cdot 1.1918$

**c.** $x \approx \dfrac{27}{0.8391}$

**d.** $x \approx \dfrac{27}{1.1918}$

Which correct statement is easier to use for computing if you are *not* using a calculator for the arithmetic?