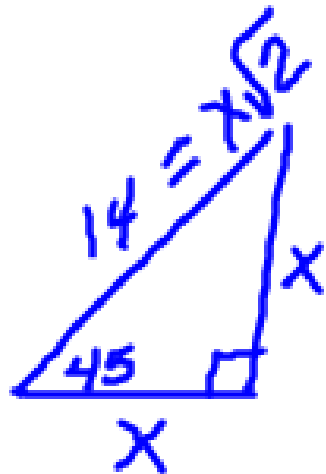


**Dump Truck** The body of a dump truck is raised to empty a load of sand. How high is the 14 foot body from the frame when it is tipped upward at the given angle?

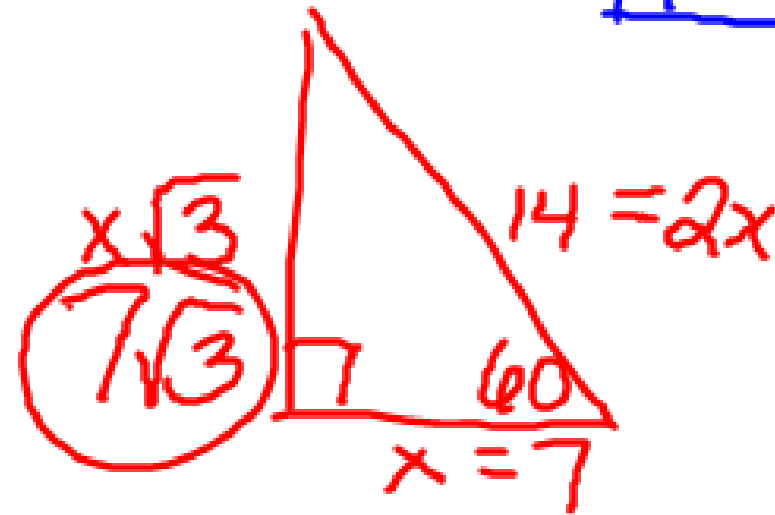
- a.  $45^\circ$  angle      b.  $60^\circ$  angle



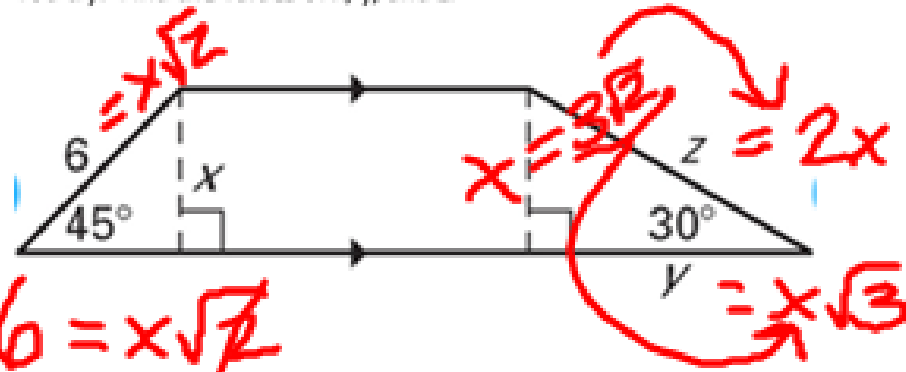
$$\frac{14}{\sqrt{2}} = \frac{x\sqrt{2}}{\sqrt{2}}$$

$$\sqrt{2} \cdot \frac{14}{\sqrt{2}} = \frac{14\sqrt{2}}{2}$$

$$= 7\sqrt{2}$$



You try: Find the values of  $x$ ,  $y$ , and  $z$ .



$$\frac{6}{\sqrt{2}} = \frac{x\sqrt{2}}{\sqrt{2}}$$
$$\sqrt{2} \cdot \frac{6}{\sqrt{2}} = \frac{3 \cdot 6\sqrt{2}}{2}$$
$$x = 3\sqrt{2}$$

$$y = 3\sqrt{2}\sqrt{3}$$
$$= 3\sqrt{6}$$

$$z = 2(3\sqrt{2})$$
$$z = 6\sqrt{2}$$