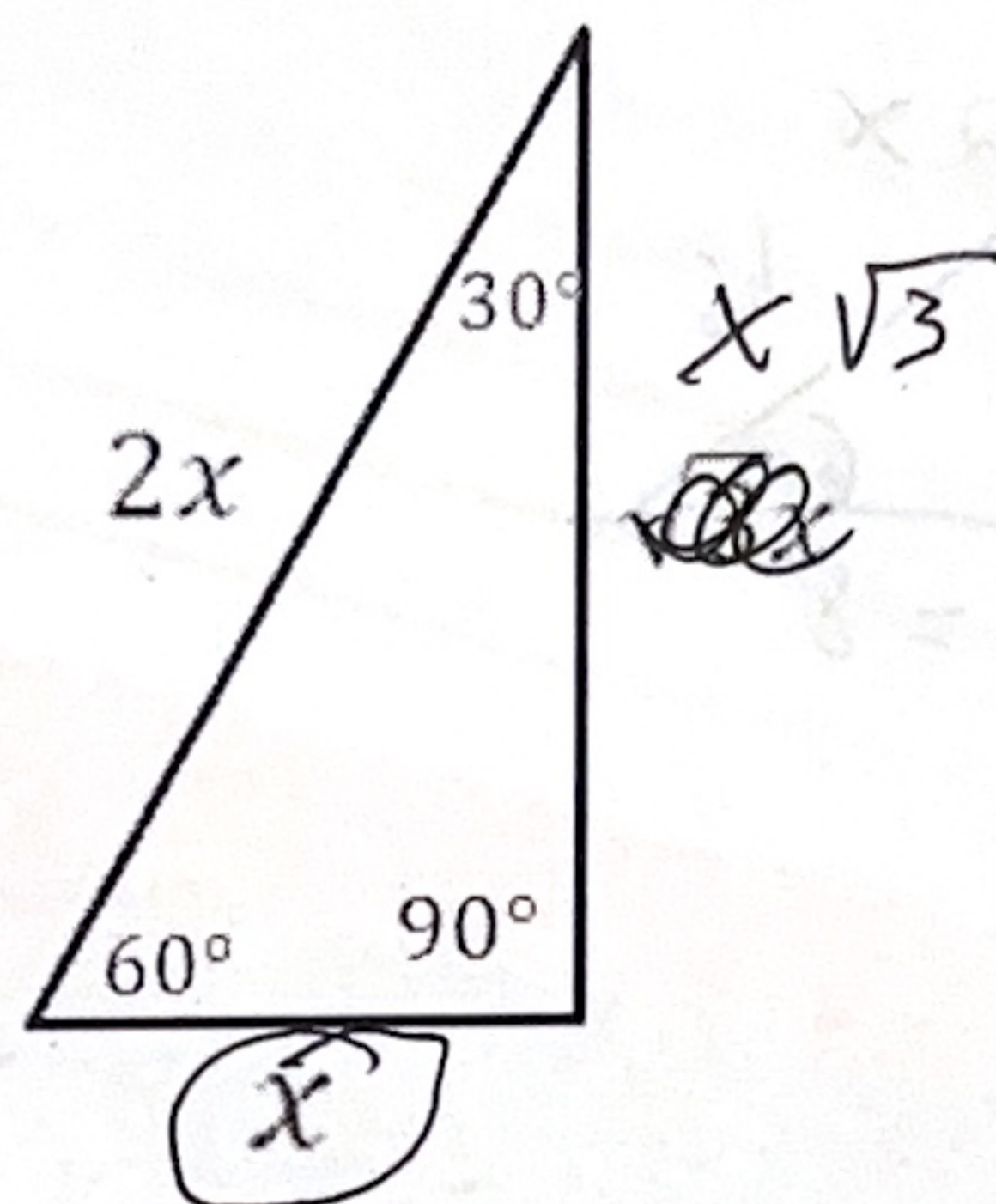
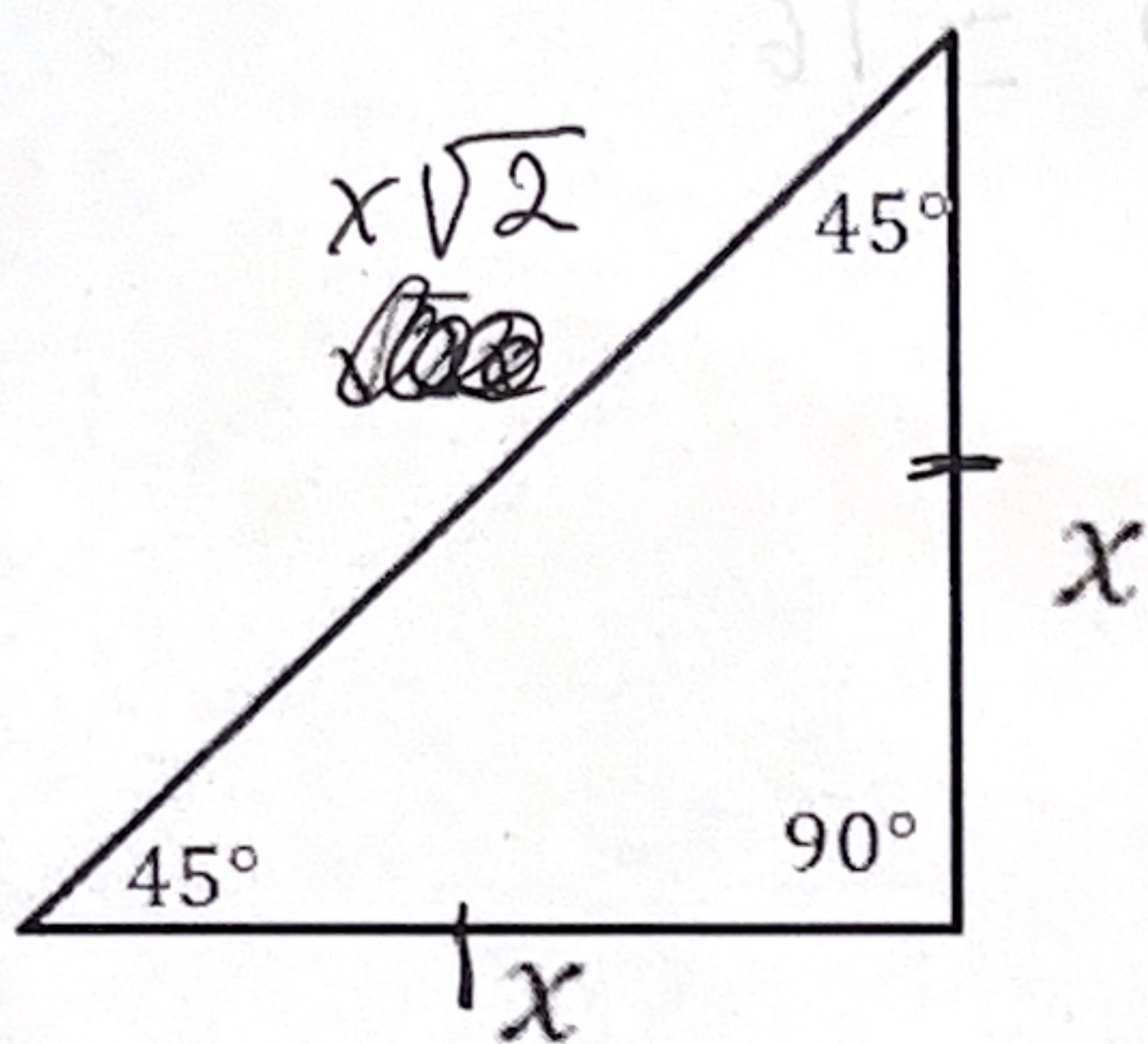


Special Right Triangles

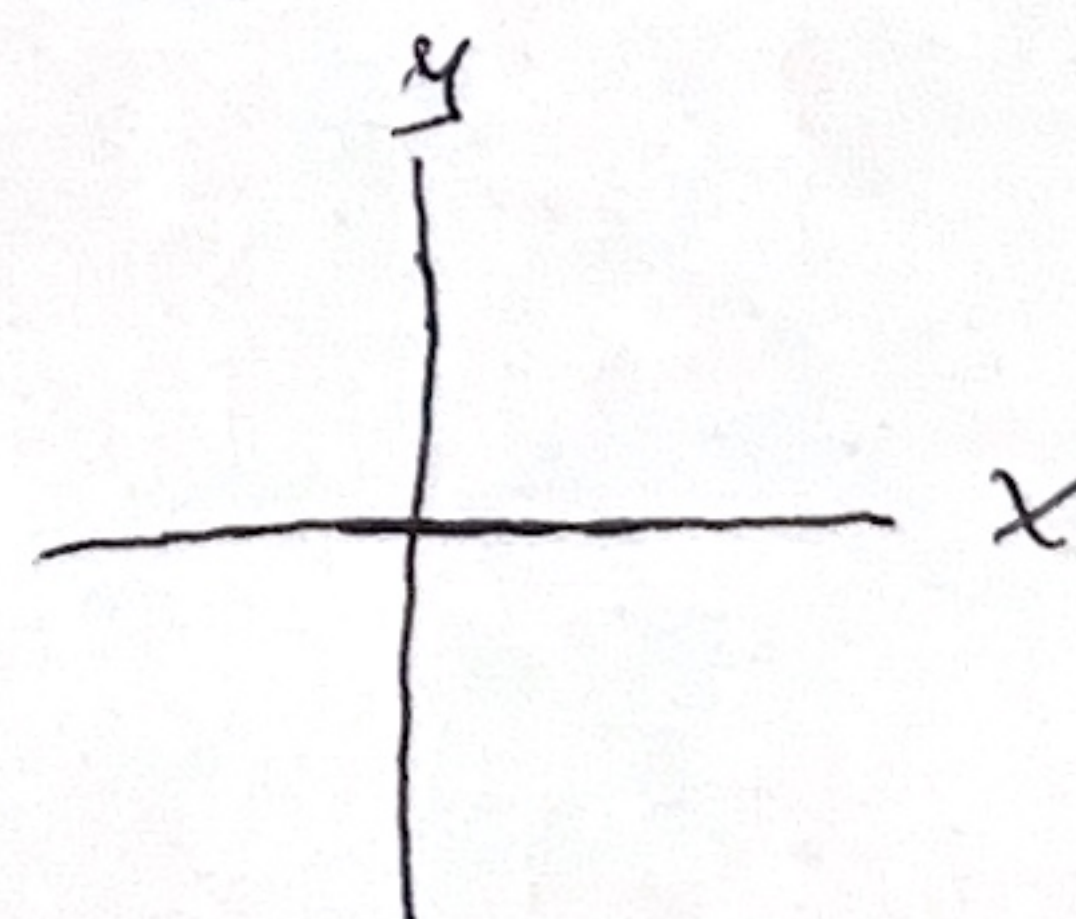


Find $\sin 30^\circ$, $\cos 30^\circ$ and $\tan 30^\circ$

$$\begin{aligned}\sin 30^\circ &= \frac{1}{2} \\ \cos 30^\circ &= \frac{\sqrt{3}}{2} \\ \tan 30^\circ &= \frac{\sqrt{3}}{3}\end{aligned}$$

Find $\sin 60^\circ = \frac{\sqrt{3}}{2}$ and $\cos 60^\circ = \frac{1}{2}$. What is $\tan 60^\circ$?

$$\begin{aligned}\sin &= \frac{y}{r} & \cos &= \frac{x}{r} \\ \tan &= \frac{y}{x}\end{aligned}$$

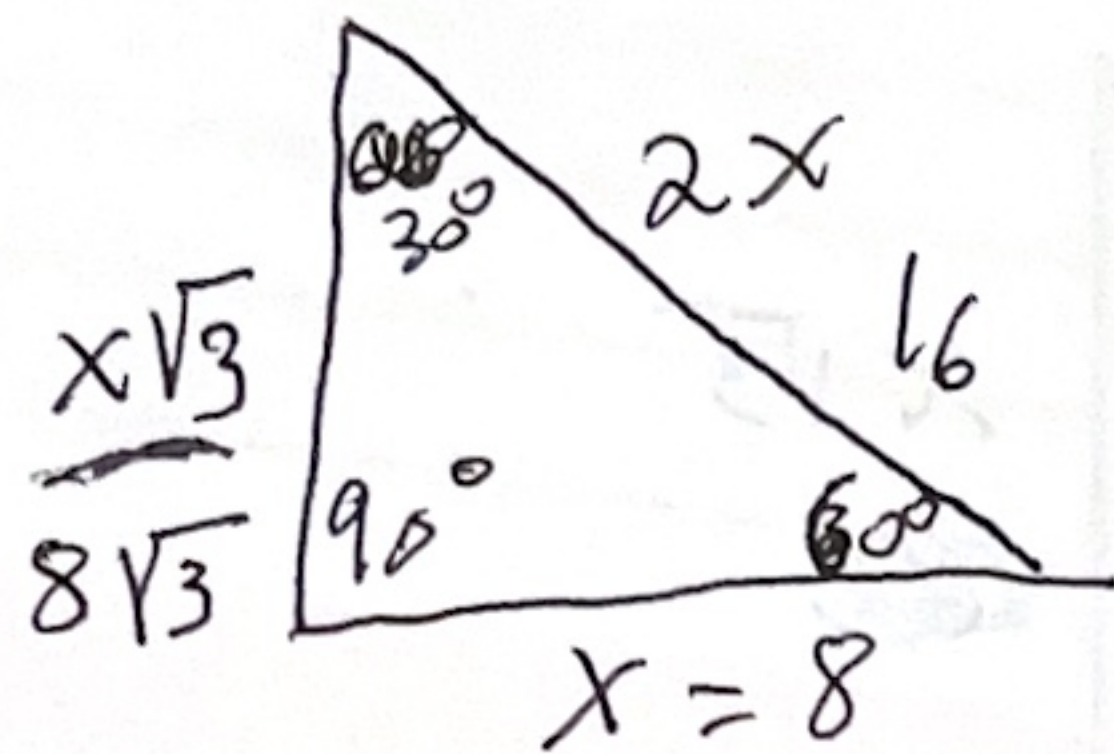


$$\frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}} \rightarrow$$

$$\frac{\sqrt{3}}{2} \cdot \frac{2}{1} = \frac{2\sqrt{3}}{2} = \sqrt{3}$$

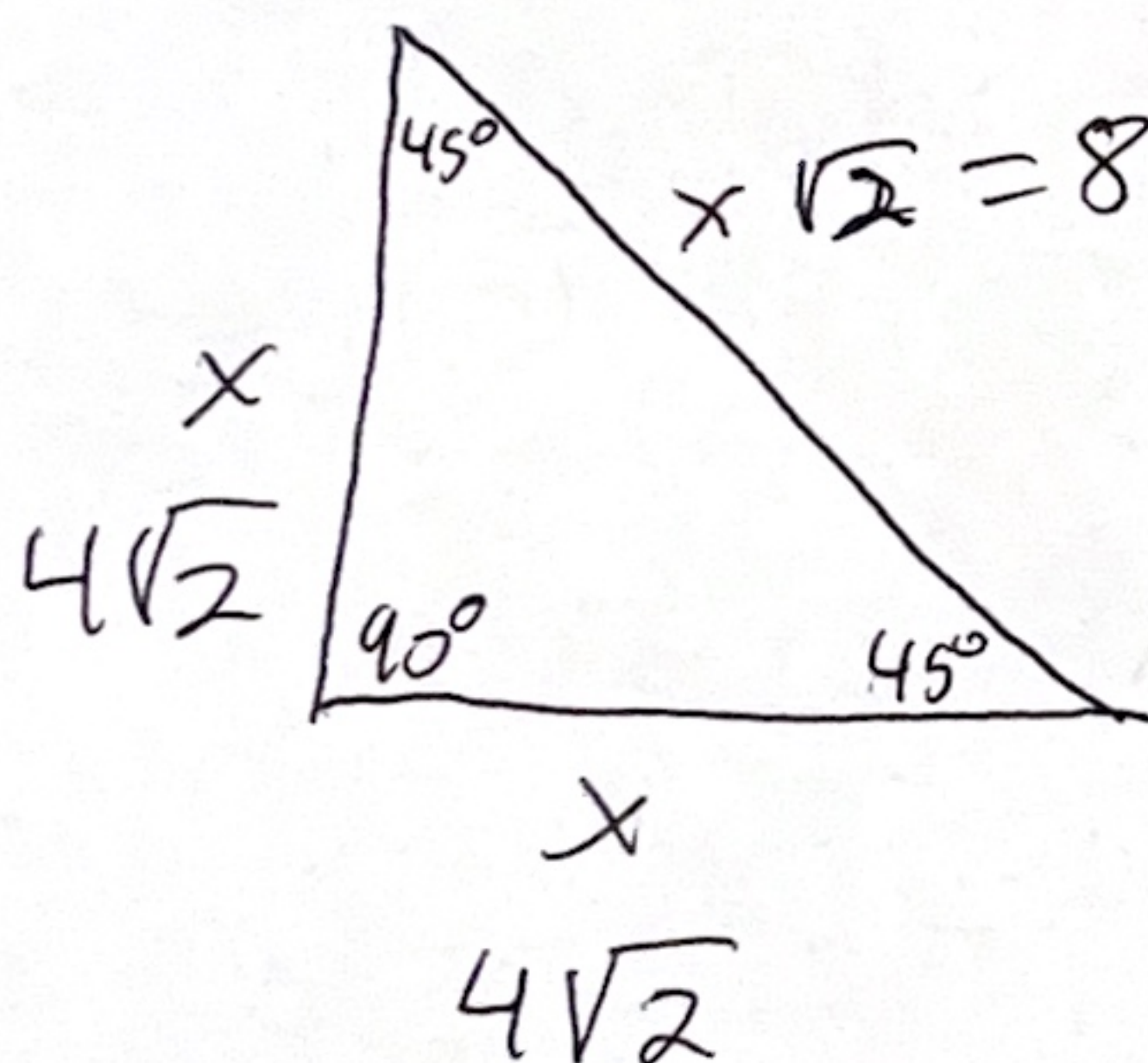
$$\boxed{\tan 60^\circ = \sqrt{3}}$$

There is a 30° - 60° - 90° Triangle. $X = 8$. Find the other sides of the triangle.



$$8 \cdot 2 = 16$$

There is a 45° - 45° - 90° Triangle $X\sqrt{2} = 8$. Find the other sides of the triangle.



$$X\sqrt{2} = 8 \rightarrow$$

$$\frac{X\sqrt{2}}{\sqrt{2}} = \frac{8}{\sqrt{2}}$$

$$X = \frac{8}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$$

$$\hookrightarrow \frac{8\sqrt{2}}{2} \quad \underline{\underline{4\sqrt{2}}}$$