1 Pythagorean Theorem

In each case below, the three sides of a triangle are given. Decide which ones are right triangles.

1. **6,8,12**: $6^2 + 8^2 = 36 + 64 = 100$, but $12^2 = 144$, so these are **not** the sides of a right triangle.

2. **5,10,12**: $5^2 + 10^2 = 25 + 100 = 125$, but $12^2 = 144 \neq 125$, so these are **not** the sides of a right triangle.

3. **8,15,17**: $8^2 + 15^2 = 64 + 225 = 289 = 17^2$, so these are the sides of a right triangle.

4. **8,6,10**: $8^2 + 6^2 = 100 = 10^2$, so these are the sides of a right triangle.

5. **1, $\sqrt{3}$, 2**: $1^2 + (\sqrt{3})^2 = 4 = 2^2$, so these are the sides of a right triangle.