CONCEPT: SUPERPOSITION OF SINUSOIDAL WAVES

● Some problems give 2 wave functions and ask you to calculate the displacement or superposition of the **resultant** wave**.**

- The Principle of Superposition says we can _____ the 2 wavefunctions**:**

y_{net} = _____ = _____

- This equation works regardless of whether y_1 and/or y_2 are **sine** or **cosine** functions!

EXAMPLE**:** Two transverse waves traveling on a string are described by the wave functions $\boldsymbol{y_1 = 0.3\ sin(4x - 1.6t)}$ and $\boldsymbol{y_2 = 0.7\ cos(5x - 2t)}$**.** What is the displacement of the particle on the string at $\boldsymbol{x}$**=2m** when $\boldsymbol{t}$**=0.5s**?