PROGRESSIVE WAVE - SPRING - EXERCISE with https://www.youtube.com/watch?v=yTprqlxDzaU

Act. 1 The blue and red curves are in tandem:

If the marks move together (both at left in the same time, etc), we say they are in . . . . . .

The **minimal** distance between two turns moving as is called . . . . . .

This distance is traveled by the wave during a . . . . . .

Act. 2 a) Abscissas (x in cm) of the turns of the spring which have the **same** movement as the source S (indication: when the **blue** and **red** curves overlap): . . . . . .

. . . . . .

b) Period T_2 in this case ? ("break" box could be ticked): . . . . . .

c) Wavelength λ_2 for this period: . . . . . .

d) Calculate the speed of the wave : . . . . . .

Act. 3 a) Abscissas (x in cm) of the turns of the spring which have the **same** motion as source S:

. . . . . .

b) Period T_3 in this case ? ("break" box could be ticked): . . . . . .

c) Wavelength λ_3 for this period: . . . . . .

d) Calculate the speed of the wave : . . . . . .

Act. 4 a) Compare the values of speed found in activities 2 and 3: . . . . . .

b) How do you describe the environment for which we obtain such a result? . . . . . .

Act. 5 a) x_R **= 30 cm** and x_B **= 90 cm.** Note this delay: $\tau_1 = t_B - t_R =$ . . . . . .

b) Is this delay a multiple of the period (measured in activity 2)? . . . . . .

c) The **blue** and **red** curves will they overlap? . . . . . .

d) x_R **= 12 cm** and x_B **= 84 cm.** New delay: $\tau_2 = t_B - t_R =$ . . . . . .

e) Frequency ***f*** of oscillations for this period: . . . . . .