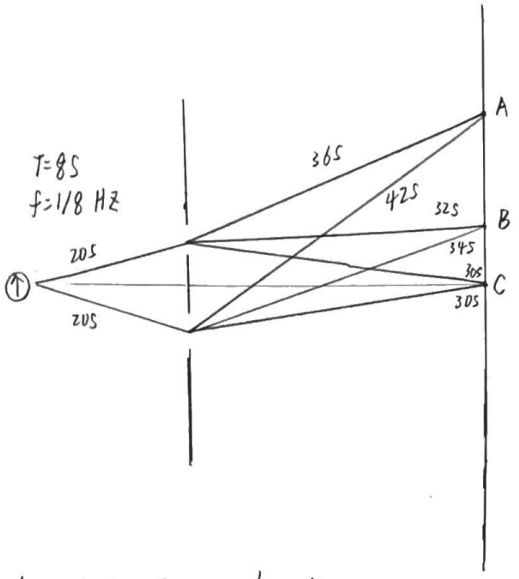


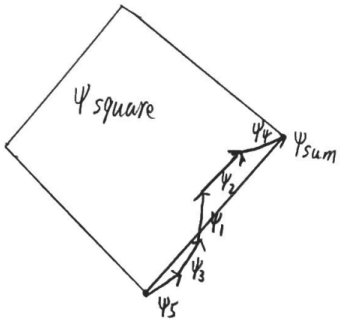
when light gets to the slit, $t = 20s$, $T = 8s$, thus $t = \frac{20}{8} = 2\frac{1}{2}T$.

Therefore the arrow points down when it gets to the slits: ⓓ

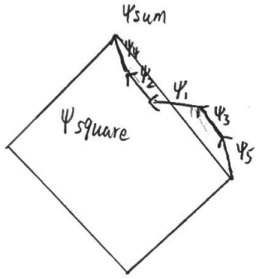
For AU: $t = 36s$ $t = \frac{36}{8} = 4\frac{1}{2}T$, Therefore, the arrow points up when it gets to AU: ⓤ. For the rest will be the same process.

Path	start	time traveled	end
AU	ⓓ	$4\frac{1}{2}T$	ⓤ
AD	ⓓ	$t = \frac{42}{8} = 5\frac{1}{4}T$	ⓛ
BU	ⓓ	$t = \frac{32}{8} = 4T$	ⓓ
BD	ⓓ	$t = \frac{34}{8} = 4\frac{1}{4}T$	ⓛ
CU	ⓓ	$t = \frac{30}{8} = 3\frac{3}{4}T$	ⓡ
CD	ⓓ	$t = \frac{30}{8} = 3\frac{3}{4}T$	ⓡ

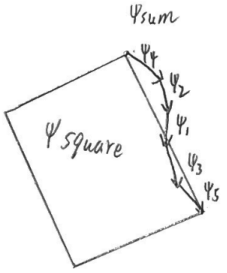
AU: ψ_1: ↑ ψ_2: ↗ ψ_3: ↗ ψ_4: ↗ ψ_5: ↗



AD: ψ_1: ← ψ_2: ↖ ψ_3: ↖ ψ_4: ↑ ψ_5: ↑



BU: ψ_1: ↓ ψ_2: ↓ ψ_3: ↓ ψ_4: ↘ ψ_5: ↘



1. Using Point, A as an example, describe in your own words how you found the probability of the light reaching this point. Limit your discussion to 300 words or less.

   There are many different paths that the light can travel though before it hits the point. Therefore, we can draw arrows for every possible path base on the arrow at the starting point. And Sum them up after. The sum of these arrows represents all the probability of the light reaching this point.

2. Is there a point on the screen where light will not appear? Explain the direction the clocks would point.

   Yes. When there are two clocks with opposite directions, they will cancel each other.

3. Suppose that we increased the frequency of the photons by a small amount. Explain what would happen to the interference effect and why.

   There will be more lines appear. Because when the frequency increased, there will be more lights cross each other. Base on their clock directions, there will be more bright or dark fringes.