**Physics 30 – Lesson 33**

**Wave-Particle Duality**

/41

1)

/4 

2)



/5

3)



/3

4)



/9

5)

/3 

6)



/6

7)



/4



8)



/3

9) (c) The double-slit experiment demonstrates that light has both wave and particle characteristics. As a wave, the interference pattern is understood as different light waves

2/ interfering either constructively or destructively depending on the phase difference between the light rays. As a particle, the photons are particle waves that land on the screen in a location that is governed by probability. After a sufficient number of photons have gone through the double slit apparatus, the pattern appears.

10)

a. False. The results of the double-slit experiment apply to light as well.

/2

b. True. The double-slit experiment applies to any wave phenomenon.