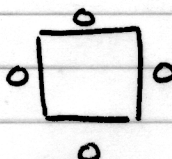


3.) a) $F(x,y) = 7\sin 3x \sin 8y - 9\sin 11x \sin 4y$

$u_t = u_{xx} + u_{yy}$ 

$$7\sin 3x \sin 8y e^{-(3^2+8^2)t} - 9\sin 11x \sin 4y e^{-(11^2+4^2)t}$$

b.) $7\sin 3x \sin 8y \cos(\sqrt{3^2+8^2}t) - 9\sin 11x \sin 4y \cos(\sqrt{11^2+4^2}t)$