

Homework #15

2.) $AA=0.2$, $Aa=0.3$, $aa=0.5 \rightarrow @ n=0$

ii) $(u, v) \rightarrow (u^2 + vu + \frac{1}{4}v^2, -2vu - 2u^2 + 2u - \frac{1}{2}v^2 + v)$
 $(0.2, 0.3) \rightarrow (0.04 + 0.06 + 0.0225, -0.12 - 0.08 + 0.4 - 0.045 + 0.3)$
 $\rightarrow (0.123, 0.455)$

$w = 1 - u - v = 1 - 0.123 - 0.455 = 0.422$

$\Rightarrow aa = 42.2\%$ in a generation

iii) $aa = 42.2\%$ in 10 generations

3.) $AA=.2$, $Aa=.5$, $aa=.3 \rightarrow @ n=0$

ii) $(u, v) \rightarrow (u^2 + vu + \frac{1}{4}v^2, -2vu - 2u^2 + 2u - \frac{1}{2}v^2 + v)$
 $(0.2, 0.5) \rightarrow (0.04 + 0.1 + 0.0625, -0.2 - 0.08 + 0.4 - 0.125 + 0.5)$
 $\rightarrow (0.203, 0.495)$

$AA = 20.3\%$ in a generation

iii) $AA = 20.3\%$ in generation