

Homework #1 solutions: MA 204

1.10 The random experiment is valid probability model if $P(a) + P(b) + P(c) = 1$

$$\begin{aligned}p + p^2 + p &= 1 \\p^2 + 2p &= 1 \\p^2 + 2p - 1 &= 0 \\ \therefore p &= \frac{-2 \pm \sqrt{4 - 2(1)(-1)}}{2} = \frac{-2 \pm 2\sqrt{2}}{2} \\ &= \sqrt{2} - 1\end{aligned}$$