I pledge to follow the Rules on Academic Honesty and understand that violations may lead to severe penalties. (Signature) _____

Let X be amount of Red balls

2) $P(X=0): \frac{C_0^{30} C_5^{70}}{C_5^{100}} = 0.1608$

$P(X=1): \frac{C_1^{30} C_4^{70}}{C_5^{100}} = 0.3654$

$P(X=2): \frac{C_2^{30} C_3^{70}}{C_5^{100}} = 0.3163$

$P(X=3): \frac{C_3^{30} C_2^{70}}{C_5^{100}} = 0.1302$

$P(X=4): \frac{C_4^{30} C_1^{70}}{C_5^{100}} = 0.0255$

$P(X=5): \frac{C_5^{30} C_0^{70}}{C_5^{100}} = 1.893 \times 10^{-3}$

$$P(X) = \begin{cases} \frac{C_i^{30} C_{5-i}^{70}}{C_5^{100}}, & i = 0, 1, 2, 3, 4, 5 \\ 0, & \text{otherwise} \end{cases}$$

$$E(x) = \sum_{x=0}^{x} x\,p(x) = (0.1604)0 + (0.3654)1 + (0.3163)2 + (0.1302)3$$

$$+ (0.0255)4 + (1.893\times10^{-3})5$$

$$= 1.5 //$$