

1. NO, NO NEG. PROBABILITIES  
DOESN'T ADD UP!

2.

<u>X</u>	<u>P(X)</u>	<u>X · P(X)</u>
0	0.20	0(0.20) = 0
1	0.30	1(0.30) = 0.30
2	0.10	2(0.10) = 0.20
3	0.40	3(0.40) = 1.20

$$\sum X \cdot P(X) = 1.7$$

$$\mu_x = 1.7$$

3.

	<u>PROFIT (X)</u>	<u>% (P(X))</u>
SMALL	10000	.15
MID	20000	.25
LARGE	80000	.60

$$\text{EXPECTED PROFIT} = \mu_x = 10000(.15) + 20000(.25) + 80000(.60)$$

$$= \boxed{54500}$$

4.  $\mu_x = 1.7$

<u>X</u>	<u>P(X)</u>	<u>X<sup>2</sup></u>	<u>X<sup>2</sup> · P(X)</u>
0	0.2	0 <sup>2</sup> = 0	0(0.2) = 0
1	0.3	1 <sup>2</sup> = 1	1(0.3) = 0.3
2	0.1	2 <sup>2</sup> = 4	4(0.1) = 0.4
3	0.4	3 <sup>2</sup> = 9	9(0.4) = <u>3.6</u>

$$\sum X^2 \cdot P(X) = 4.3$$

$$\sigma_x = \sqrt{\left[ \sum X^2 \cdot P(X) \right] - \mu_x^2}$$

$$= \sqrt{4.3 - 1.7^2}$$

$$= \boxed{1.19}$$