Quick Questions 15 Hypothesis Testing of Population Proportions

I. Place the number of the appropriate formula or expression next to the item it describes.

A. When using the normal approximation to the binomial distribution,

1. np and n(1 - p) must be _____

2. n must be _____

B. A one population test _____

C. $\bar{p}_w =$ _____

D. A two population test _____

1.	$\dfrac{\bar{p}_1 - \bar{p}_2}{\sqrt{\dfrac{\bar{p}w(1-\bar{p}w)}{n_1} + \dfrac{\bar{p}w(1-\bar{p}w)}{n_2}}}$
2.	≥ 30
3.	$\dfrac{x_1 + x_2}{n_1 + n_2}$
4.	≥ 5
5.	$\dfrac{\bar{p} - p}{\sigma_{\bar{p}}}$

II. A national video publication stated long-term tape rentals average 20% of all tape rentals. A 150 customer study at Linda's Video Showcase revealed 24 long-term rentals. Test at the .05 level of significance whether Linda's long-term rentals are less than the national average.

For People Using Statistics Software														
Length of Video Rentals														
m	l	m	m	m	m	l	m	l	m	m	m	m	m	m
m	m	m	m	m	m	m	m	m	m	m	l	m	m	m
l	m	m	m	m	l	m	m	m	m	m	m	m	m	m
m	m	m	l	m	m	m	m	m	l	m	m	m	m	m
m	m	m	m	m	m	l	m	m	m	m	m	m	l	m
m	m	m	m	m	l	m	l	m	m	m	l	m	m	m
m	m	m	m	m	l	m	m	m	m	l	m	m	m	m
m	m	m	l	m	m	m	l	m	l	m	m	m	m	m
m	m	m	l	m	m	l	m	m	m	m	m	m	m	m
m	m	m	m	m	l	l	m	l	m	l	m	m	m	m

III. Linda Smith found that 70 out of 100 customers rented 2 or more tapes at one store and 44 out of 50 rented 2 or more tapes at a second store. Test at the .05 level of significance whether there is a difference between the proportion of customers at these two stores renting 2 or more tapes.

For People Using Statistics Software														
Number of Video Rentals														
Store 1										Store 2				
2	2	1	2	2	1	2	1	2	1	2	2	2	2	3
1	2	2	2	2	2	2	2	1	2	4	1	2	2	2
5	1	2	1	2	2	3	1	2	2	2	2	3	2	2
3	2	1	2	4	2	1	2	2	1	3	4	1	5	2
1	2	2	2	1	2	3	2	1	2	2	2	2	2	2
2	2	1	3	2	2	2	1	2	5	1	2	3	2	2
2	1	2	2	2	1	2	2	1	2	3	2	2	4	2
2	2	1	1	4	2	2	1	3	1	2	2	2	3	1
3	1	2	2	1	2	1	2	3	4	2	3	3	1	4
2	2	1	2	2	1	3	2	1	3	3	4	1	2	2