Minitab 5 comments:

1st part: $H_0 : p_{home} = p_{away}$, $H_a : p_{home} > p_{away}$,
p_{home}=proportion of home games which were wins
p_{away}=proportion of away games which were wins

H_0 is always some thing with "=".
$z = 1.05$, $p = 0.148$ (has nothing to do with a 95% CI technically)

This is a 1 sided test, so we can reject H_0 at $\alpha = 0.15$, but we usually care about more significant results. So our sample data is not significant enough to reject the null hypothesis. This means we have weak evidence of a home court advantage.

Interpretation: Assuming no home court advantage(H_0), there is a 14.8% chance that a sample of this size will have a mean difference $p_{home} - p_{away} \geq 12.4\%$. That is a pretty high chance, about 1/7, close to a die roll.

2nd part: $H_0 : \mu_{home} = \mu_{away}$, $H_a : \mu_{home} > \mu_{away}$,
μ_{home}=mean margin of victory of home games which were wins
μ_{away}=mean margin of victory of away games which were wins

$t = 2.3$, $p = 0.014$, we definitely reject the null hypothesis in this case, at least at the 1-sided 2.5% level.

Interpretation: If we assume that there is no difference in the mean margins of victory at home and away, then there is a 1.4% chance that a sample of this size with give a mean margin of victory at home larger than the mean margin of victory away by 5.86 points.

Minitab 4 comments:

Regardless of the sample size, it doesn't matter: Any sample can be used to calculate a confidence interval for the population mean. If you take a bazillion million 95% confidence intervals, even if they all have difference sample sizes, you expect 95% of them to actually capture the mean. Bigger samples with have smaller confidence intervals(smaller variance of the sample mean), smaller samples will have bigger confidence intervals(larger margin of error because the sample mean varies more). But a 95% CI for a sample of size 100 captures the mean 95% of the time as does a 95% CI for a sample of size 12. The smaller n-value makes the margin of error big enough to still capture the mean 95% of the time.
