

MATH1041 Mock Computer Test

***All answers should be exact or with 4 decimal places.

1. Each student is tossing two coins, there are 6 students, find the probability that more than or equal to 4 coins are getting heads. (i.e. The coins can only have heads or tails)

3. Assume that T has a t-distribution with 40 degrees of freedom. Calculate the following probability $P(T > 0.0476)$

5. There are 8 horses in a farm, the weight of the horses are stated as follow (in lbs)

1367 1200 1083 1157 1192 989 1178 1000

Given that $\sigma = 114.5379304$

Is there enough evidence to show that the average weight is more than 1150 lbs?

- Determine the null hypothesis and alternative hypothesis
- Calculate the critical value
- Calculate the p-value and determine whether accepting or rejecting the null hypothesis
- Draw out the conclusion
- State the assumptions for this hypothesis test
- Construct a 95% confidence interval for this case (answer with 3 decimal places)

7. 20 out of the 113 Year 1 students are born in January and February. Does it provide any evidence that more people are likely to born in these two months?

- Set up the null and alternative hypothesis
- Calculate the p-value and determine whether accepting or rejecting the null hypothesis
- Construct the 99% of confidence interval of p

[ANSWER]