1. A 95% confidence interval for the mean difference in temperature after a meal with chilli compared to one without is (-0.2°C, 0.3°C).

Which of the following numbers for the true mean difference in temperature appear to be consistent with the data?

0°C	0.15°C	0.4°C
-0.15°C	-0.21°C	0.29°C

Is there strong evidence to suggest that chilli makes a difference to temperature, on average?

2. A 95% confidence interval for the percentage of Australian adults who can distinguish between expensive and inexpensive wine is (12%, 23%).

Which of the following numbers for the true percentage appear to be consistent with the data?

0%	10%	50%
15%	24%	6%

Is there strong evidence to suggest that the majority of people can't distinguish between inexpensive and expensive wine?

3. A 95% confidence interval for the average number of dust-mites in a square foot of carpet when the indoor temperature is 22°C (in millions) is (34,46).

Which of the following numbers for the true average number of dust-mites at 22°C appear consistent with the data?

22 million	30 million	36 million
140 million	47 million	50 million

Is there strong evidence to suggest that there are under 30 million dust-mites per square foot of carpet when the temperature is 22°C?

4. A 95% confidence interval for the difference in mean age of new mothers between now and 30 years ago is (0.9 years, 9.1 years).

Which of the following numbers for the true difference in mean ages appear to be consistent with the data?

0 years	9 years	2.5 years
1.5 years	3.6 years	10 years

Is there strong evidence to suggest that new mothers are older than they were 30 years ago, on average?

5. A 95% confidence interval for the odds ratio of adult asthma for those who had childhood eczema compared to those who did not is (1.3, 6.3).

Which of these numbers for the odds ratio appear consistent with the data?

0.5	1	5
2	1.5	10

Is there strong evidence to suggest that the odds of adult asthma is different in people who had childhood eczema compared to those who didn't?

6. A 95% confidence interval for the average increase in grades associated with an extra half an hour of sleep per night is (2.3, 6.9) percentage points.

Which of the following numbers for the true average increase in grades for half an hour's extra sleep appear consistent with the data?

0 points	1 point	10 points
5 points	20 points	2.5 points

Is there strong evidence to suggest that an extra half an hour of sleep per night makes a difference to grades, on average?

ANSWERS
ARE ON THE NEXT TWO PAGES

DON'T PEEK!

1. A 95% confidence interval for the mean difference in temperature after a meal with chilli compared to one without is (-0.2°C, 0.3°C).

Which of the following numbers for the true mean difference in temperature appear to be consistent with the data?

0°C	0.15°C	0.4°C
-0.15°C	-0.21°C	0.29°C

Is there strong evidence to suggest that chilli makes a difference to temperature, on average?
No, because 0°C is not in the 95% CI.

2. A 95% confidence interval for the percentage of Australian adults who can distinguish between expensive and inexpensive wine is (12%, 23%).

Which of the following numbers for the true percentage appear to be consistent with the data?

0%	10%	50%
15%	24%	6%

Is there strong evidence to suggest that the majority of people can't distinguish between inexpensive and expensive wine?
Yes, because 50% is not in the CI and the whole CI is below 50%.

3. A 95% confidence interval for the average number of dust-mites in a square foot of carpet when the indoor temperature is 22°C (in millions) is (34,46).

Which of the following numbers for the true average number of dust-mites at 22°C appear consistent with the data?

22 million	30 million	36 million
140 million	47 million	50 million

Is there strong evidence to suggest that there are under 30 million dust-mites per square foot of carpet when the temperature is 22°C?
Actually, it's over 30 million because the whole CI is over 30 million.

4. A 95% confidence interval for the difference in mean age of new mothers between now and 30 years ago is (0.9 years, 9.1 years).

Which of the following numbers for the true difference in mean ages appear to be consistent with the data?

0 years	9 years	2.5 years
1.5 years	3.6 years	10 years

Is there strong evidence to suggest that new mothers are older than they were 30 years ago, on average?
Yes, because 0 years is not in the CI.

5. A 95% confidence interval for the odds ratio of adult asthma for those who had childhood eczema compared to those who did not is (1.3, 6.3).

Which of these numbers for the odds ratio appear consistent with the data?

0.5	1	5
2	1.5	10

Is there strong evidence to suggest that the odds of adult asthma is different in people who had childhood eczema compared to those who didn't?
Yes, because 1 is not in the odds ratio CI.

6. A 95% confidence interval for the average increase in grades associated with an extra half an hour of sleep per night is (2.3, 6.9) percentage points.

Which of the following numbers for the true average increase in grades for half an hour's extra sleep appear consistent with the data?

0 points	1 point	10 points
5 points	20 points	2.5 points

Is there strong evidence to suggest that an extra half an hour of sleep per night makes a difference to grades, on average?
Yes, because a difference of 0 points is not in the CI.