

Do you understand what a “95% confidence interval” means?

For each of the following 20 questions, provide a range that you are 95% confident includes the correct answer.

Q1: Distance from earth to nearest star (excluding sun), in light-years

95% confidence interval: [_____ , _____]

Q2: GDP of Mongolia, in USD

95% confidence interval: [_____ , _____]

Q3: Height of tallest man in recorded history, in inches

95% confidence interval: [_____ , _____]

Q4: Depth of deepest part of Pacific Ocean, in meters

95% confidence interval: [_____ , _____]

Q5: Average distance from earth to moon, in miles

95% confidence interval: [_____ , _____]

Q6: Population of Russia in 2019

95% confidence interval: [_____ , _____]

Q7: Maximum number of passengers carried on Emirates A380 aircraft (two-class layout)

95% confidence interval: [_____ , _____]

Q8: Number of passengers who died on the Titanic

95% confidence interval: [_____ , _____]

Q9: Market capitalization of Apple on the day Steve Jobs died, in USD

95% confidence interval: [_____ , _____]

Q10: Fastest lap time in an F1 car around the Monaco circuit, in min:sec

95% confidence interval: [_____ , _____]

Q11: Number of regular season goals scored by Wayne Gretzky in his NHL career
95% confidence interval: [_____ , _____]

Q12: NASAs budget for the year 2019, in USD
95% confidence interval: [_____ , _____]

Q13: Number of Big Macs sold globally in a year (on average) by McDonalds
95% confidence interval: [_____ , _____]

Q14: Number of students from China attending U.S. colleges in the 2018-2019 academic year
95% confidence interval: [_____ , _____]

Q15: Total number of passengers flying domestically on U.S. airlines in 2019
95% confidence interval: [_____ , _____]

Q16: Amount of coal produced by U.S. mines in 2019, in pounds
95% confidence interval: [_____ , _____]

Q17: Breeds eligible to compete at the 144th Westminster Kennel Dog Show
95% confidence interval: [_____ , _____]

Q18: Number of total worldwide searches processed by Google each day
95% confidence interval: [_____ , _____]

Q19: Full weight (including planes, ammunition, people) of a Nimitz-class aircraft carrier, in pounds
95% confidence interval: [_____ , _____]

Q20: Number of times that the name "Jesus" appears in the King James bible
95% confidence interval: [_____ , _____]

Answers

A1: 4.2441 light years away [[Proxima Centauri](#)]

A2: \$13,637,000,000 [[IMF Statistic](#)]

A3: 107 inches [[Robert Wadlow, the Giant of Illinois](#)]

A4: 10,984 meters [[Challenger Deep measurement](#)]

A5: 237,674.5 miles away [[NASA number](#)]

A6: 145,872,256 people [[Worldometers number](#)]

A7: 615 seats [[Layout: Two Class, Flat Bed Business \(Rows 6-23\), Standard Economy \(Rows 24-88\)](#)]

A8: 1,517 people [[Titanic stat](#)]

A9: \$351.5 billion [... [market cap was...](#)]

A10: 1:14.260 min:sec [[Max Verstappen, 2018 Monaco Grand Prix](#)]

A11: 894 goals [[The Great One's NHL stats](#)]

A12: \$19,653,000,000 [[2019 Budget overview](#)]

A13: 550,000,000 Big Macs [[McDonald's suggests...](#)]

A14: 369,548 students 2018/2019 academic year [[students from China](#)]

A15: 811,400,000 passengers [[US Bureau of Transport Statistics](#)]

A16: 1,410,518,000,000 pounds (short tons converted to pounds) [[US Coal numbers](#)]

A17: 205 breeds and varieties [[Westminster Kennel Club](#)]

A18: 3,500,000,000 searches per day [[Google Search stats](#)]

A19: 226,679,700 pounds (full displacement, from long tons to pounds) [[Navy wayback](#)]

A20: 942 times/instances [[King James Bible online](#)]

Interpreting your results

If you did the exercise correctly, you will have correctly captured the answer in your ranges exactly 19 out of 20 times. No more, no less.

If you got 10 correct (that is, for 10 questions your range include the correct answer), it means you actually produced a 50% confidence interval. In other words, you did not use a large enough range to provide 95% confidence.

If you got 12 correct, it means you produced a 60% confidence interval, again, too small a range to provide 95% confidence.

And so on.

And in the unlikely event that you got all 20 correct (that is, for every question your range included the correct answer), it means you produced a 100% confidence interval. Translated another way, it means you created too large a confidence interval.