There are one hundred seniors at a high school. Seventy-three seniors take a science class. Sixty-four seniors take an English class. Sixty-two seniors take a math class. Forty-nine seniors take both a science and English class. Thirty-six seniors take both an English and math class. Forty-nine seniors take both a science and math class. Thirty seniors take a science, math and English course. Let:

- A = the number of seniors taking only a math class
- B = the number of seniors taking only an English class
- C = the number of seniors taking only a science class
- D = the number of seniors that do not take an English, science, or math class

What is A + B + C + D?

A teacher records the test scores of her ten students as follows: 57, 68, 73, 88, 89, 88, 76, 100, 92, 99. Let:

- A = the mean of the ten scores
- B = the median of the ten scores
- C = the range of the ten scores
- D = the new mean of the test scores if the teacher decides to add 5 extra credit points to each test

What is A + B + C + D?

The currency on planet X contains Ticks, Tocks, Tins and Tacks. One Tick is worth the same amount as thirteen Tocks. Seven Tocks are worth the same amount as fifty-six Tins. Forty Tins are worth the same amount as seven Tacks. Let:

- A = the amount of Tocks that are worth the same amount as seven Tacks
- B = the amount of Ticks that are worth the same amount as seven Tacks
- C = the amount of Ticks that are worth the same amount as three Tins

What is 56(A + B + C) to the nearest whole number?

Let:

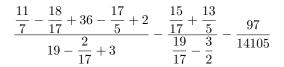
- A = the greatest common factor of 36 and 111, 114
- B = the least common multiple of 7, 9 and 12
- C = the number of positive integral factors of 48
- D = the largest prime factor of 252

Let:

- A = 3.2% of 1800
- B = the price of two sweaters, if each costs \$23.20 before sales tax (Note: sales tax is 7.5%)
- C = the sum of the interior angles of a decagon
- D = the diameter of a circle with area 36π

Find A + B + C + D to the nearest whole number.

Simplify:



A cube with a side length of 5 units is made out of white clay. Five of the faces are painted green. The cube is then cut into unit cubes. Let:

- A = the probability of choosing a unit cube with no green faces
- B = the probability of choosing a unit cube with only one green face
- C = the probability of choosing a unit cube with only two green faces
- D = the probability of choosing a unit cube with three green faces

Find 5A + 5B + 25C + 125D.

Let:

- A = the hypotenuse of a right triangle with leg lengths 11 and 60
- B = the number of distinct ways to have 7 people stand in a line
- C = the 10th prime number
- D = the distance between the points (2001, 2018) and (2012, 2078) on the Cartesian plane

Find AB - CD.

Anirudh needs help analyzing the following infinite geometric sequence: $1, 2, 4, 8, \ldots$ Let:

- A = the 7th term in the sequence
- B = the common ratio of the sequence
- C = the seventh term divided by the fourth term
- D = the sum of the first 8 numbers in the sequence

Let:

- $A = f(2) f(-2) \text{ if } f(x) = 4x^5 13x^3 + 11x$
- B = the sum of the first 26 positive integers
- C = the second positive integer with seven factors
- D = the evaluation of the following finite geometric series: $1 2 + 4 8 + 16 \ldots + 1024$

Bonnie can paint a house in 5 hours. Clyde can paint a house in 7 hours. If Bonnie began painting an empty house at noon and Clyde joined her at 1 PM, at what time (include AM or PM) will the house be completely finished?

Let:

- A = the perimeter of a regular heptagon with a side length of two
- B = the number of centimeters in a decameter
- C = the height of a triangle that has an area of 25 square units and base of 5 units
- D = the product of the first five prime numbers

Given that $z(x) = 4x^3 + 14x^2 - 3x + 8$, let:

- A = the sum of the roots of z(x)
- B = the product of the roots of z(x)
- C = y(23), if y(x) is the inverse of z(x)

Find A + B + C.

Let:

- A = the slope of the line containing the points (1,3) and (-5,9)
- B = the number of prime numbers less than 100
- C = the sum of the first 70 positive odd integers
- D = the distinct number of ways to rearrange the letters in the word WAKANDA