



Grade 6 Math Circles
Winter 2019—April 2 & 3
Jeopardy

Answers:

Counting:

\$100: $6^6 = 46656$ ways.

\$200: $6! = 720$ ways.

\$300: ${}_8P_4 = 1680$ groups.

\$400: ${}_8C_4 = 70$ ways.

\$500: $\frac{8!}{2!} = 20160$ arrangements.

Exponents (calculators were not permitted for this category):

\$100: $5^5 = 3125$.

\$200: $2^{-10} = \frac{1}{2^{10}} = \frac{1}{1024}$.

\$300: $3^7 = 2187$.

\$400: $4^6 = 4096$.

\$500: $2^1 = 2$.

Platonic Solids:

\$100: 12 sides.

\$200: 20 sides.

\$300: A cell.

\$400: 8 cells.

\$500: 16 vertices.

Arithmetic Tricks (calculators were not permitted for this category):

\$100: 638.

\$200: 4653.

\$300: 30785.

\$400: 84915.

\$500: 3551.

Angles:

\$100: An angle between 180° and 360° .

\$200: Complementary.

\$300: 60° .

\$400: $a = 58^\circ, b = 48^\circ, c = 74^\circ, d = 122^\circ$.

\$500: $x = 116^\circ$

Units and Dimensions:

\$100: Mass times length divided by time, divided by time.

\$200: According to the SI, they are: length, time, mass, electric current, absolute temperature, amount of substance, and luminous intensity.

\$300: 10000 dm.

\$400: 1 000 000 000 000 000 ncd.

\$500: 430 859 520 000 000 000 s.