

MATHCOUNTS®

- **National math competition program for grade 6th through grade 8th**
- **Started in 1983; Alaska participated since then**
- **Benefited students with math and critical thinking skills**

MATHCOUNTS®

- **Regional Competition – Anchorage Chapter Competition**
 - **Saturday, 10 February 2018**
 - **Potentially 3 teams and 2 individuals to advance State Competition**

MATHCOUNTS®

- **State Competition**
 - **Hosted in Anchorage**
 - **Saturday, 24 March 2018**
 - **Students from Anchorage, Fairbanks, Juneau and Remote chapter will compete**
 - **4 highest scored students will form a team to represent state of Alaska at National**

MATHCOUNTS®

- **National Competition**
 - **Hosted in Washington DC**
 - **Sunday 13 May 2018**
 - **4 highest scored students from State competition will form a team to represent state of Alaska at National**

MATHCOUNTS®

- **Financially sponsored by local engineering firms and engineering societies**
- **Alaska Engineering Education Foundation (AEEF) supports MATHCOUNTS**
- **AEEF sponsors fundraising Bowling event in February**

MATHCOUNTS®

- **SAME – Anchorage Post has been supported MATHCOUNTS since 2006**
- **Volunteering opportunity – Anchorage Chapter in Feb; State in March**
- **We also gladly accept monetary donations from individuals as well as airline mileages**

MATHCOUNTS®

**2017 Chapter Competition
Countdown Round**

Sample Question

A 3-ounce can of tomato sauce costs \$1.68. In cents, what is the price per ounce?

Sample Question

Answer: 56 (cents)

1. Two 8.5-inch by 11-inch sheets of paper are lying flat on an otherwise unoccupied 2-foot by 3-foot tabletop. Exactly 700 in^2 of the table are not covered by the sheets of paper. What is the area of the overlap of the two sheets, in square inches?

2. Square $WXYZ$ in the coordinate plane has vertices $W(2, -7)$, $X(-6, 8)$, $Y(9, 16)$ and $Z(a, b)$. What is the value of $a + b$?

3. What is the least value
of x that is a solution
of $5 + \frac{3}{x} = \sqrt{5 + \frac{3}{x}}$?

Express your answer
as a common fraction.

4. On a scale model of a building, one room measures $2\frac{3}{8}$ inches long by $1\frac{7}{8}$ inches wide. If the actual room is 19 feet long, how many feet wide is it?

5. Two legs of a right triangle have lengths 10 and 15. What is the length of the hypotenuse, in units? Express your answer in simplest radical form.

6. Jim eats two-fifths of a chocolate bar and leaves the remaining three-fifths in the kitchen. Marie comes in and eats one-third of the remaining bar, and then Sage finds it and eats one-fourth of what's left. What fraction of the original chocolate bar remains? Express your answer as a common fraction.

7. On Mercury, 13 farfels equal 14 freks, 7 freks equal 16 fremps, 8 fremps equal 11 frindels, 12 frindels equal 9 frapts. How many frapts is 26 farfels?

8. How many cubes of edge length 0.5 inches are needed to fill a cube with edge length 2 inches?

9. What is the slope of the perpendicular bisector of the segment connecting points $(20, 15)$ and $(19, 84)$? Express your answer as a common fraction.

10. What is the arithmetic mean
of $27^{-\frac{1}{3}}$, $27^{-\frac{2}{3}}$ and 27^{-1} ?

Express your answer as a
common fraction.

11. Larry needs three pieces of ribbon totaling 30 meters in length for an art project. He needs one piece of ribbon that is 15 cm longer than twice the length of the shortest piece, and he needs another piece that is 30 cm shorter than three times the length of the second piece. What is the length of the shortest piece of ribbon that Larry needs, in centimeters?

12. How many hours are
in $\frac{1}{28}$ of one week?

13. What is the sum of the odd integers from 1 through 17, inclusive?

14. If $\frac{48}{2x+5y} = \frac{24}{3x-2y}$, what is the ratio of x to y ? Express your answer as a common fraction.

15. Rich works for Wall Smart earning \$20 per hour. By mistake his wage was reduced by 50%. To attempt to fix the mistake, his reduced wage is increased by 50%. How many dollars does Rich currently earn per hour?

16. For what value of c does the parabola given by $y = x^2 - 10x + c$ have exactly one x -intercept?