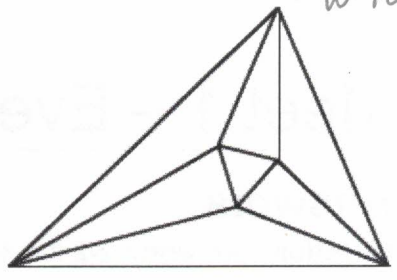


Meet 1 – Event A 2018-19



14

Questions are worth 2-2-2-4-4 points respectively.
No calculators allowed

Put your total at the top (just for fun)

If you don't get 14 points total (the maximum), study the solutions, learn how it's done, and maybe try again (yes, the same event) in a few days (so you can forget a little!)

2 0.329 ✓
1. Evaluate. Write your answer as a decimal.
$$\frac{3}{10} + \frac{2}{100} + \frac{9}{1000}$$

2 D ✓
2. Which fraction has the largest value? Write the letter.

- A. $\frac{3}{10} < \frac{1}{3}$ B. $\frac{99}{300} < \frac{1}{3}$ C. $\frac{5}{16} < \frac{1}{3}$ **D. $\frac{101}{301} > \frac{1}{3}$** E. $\frac{8}{25} < \frac{1}{3}$

$\frac{99}{300} < \frac{100}{300} < \frac{101}{300}$ $\frac{100}{301} < \frac{100}{300} < \frac{100}{299}$

Mark how many peaches you get (just for fun)

2 $\frac{3}{20}$ ✓
3. Every student at Friendship Middle School gets one piece of fruit with lunch. Of the students, one quarter take a banana, one half take an apple, one tenth take an orange, and the rest take a peach. What fraction of all the students at Friendship Middle School have a peach with lunch? Write your answer in lowest terms.

$$\frac{1}{4} + \frac{1}{2} + \frac{1}{10} + x = 1$$

$$\frac{1}{4} \cdot \frac{5}{5} + \frac{1}{2} \cdot \frac{10}{10} + \frac{1}{10} \cdot \frac{2}{2}$$

$$= \frac{5}{20} + \frac{10}{20} + \frac{2}{20} = \frac{5+10+2}{20} = \frac{17}{20}$$

4 1024 ✓
4. A new operation, #, is defined as follows:

$$p \# q = p^2 + 2pq + q^2$$

What is the value of $(3 \# 2) \# 7$?

$$(3 \# 2) \# 7 = (3^2 + 2 \cdot 3 \cdot 2 + 2^2) \# 7 = (9 + 12 + 4) \# 7 = 25 \# 7$$

$$= 25^2 + 2 \cdot 25 \cdot 7 + 7^2 = 625 + 350 + 49 = 975 + 49 = 1024$$

$\frac{1}{8}$ $1 - \frac{17}{20} = \frac{20}{20} - \frac{17}{20}$
 $= \frac{3}{20}$

4 73 ✓
5. In the equation, m and n are relatively prime positive integers.

$$\frac{1}{2} + \frac{1}{4} = \frac{1}{3} + \frac{1}{5} + \frac{m}{n}$$

What is $m + n$?

$$\frac{m}{n} = \frac{1}{2} + \frac{1}{4} - \frac{1}{3} - \frac{1}{5}$$

$$= \frac{1}{2} \cdot \frac{30}{30} + \frac{1}{4} \cdot \frac{15}{15} - \frac{1}{3} \cdot \frac{20}{20} - \frac{1}{5} \cdot \frac{12}{12}$$

$$= \frac{30}{60} + \frac{15}{60} - \frac{20}{60} - \frac{12}{60} = \frac{30+15-20-12}{60} = \frac{13}{60}$$