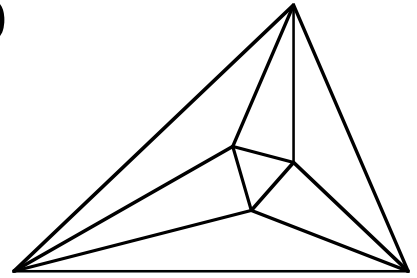


Meet 1 - Event A 2008-2009

Questions are worth 2-2-2-4-4 points respectively.
Remember your units.



_____ 1. Which is a ratio of relatively prime numbers?

$$\frac{15}{35} \text{ or } \frac{39}{13} \text{ or } \frac{4}{33} \text{ or } \frac{2}{20}$$

_____ 2. Yang collected presidential campaign buttons. He had 5 yellow, 8 blue, 10 red, 3 green, and 1 white button. What fraction of his buttons were either blue or red, written in simplest form?

_____ 3. Write the algebraic expression for: fifteen less than twice a number, n .

_____ 4. In this long division problem, what is the missing digit, a ?

$$\begin{array}{r} \underline{1a} \\ 1a \overline{)147} \\ \underline{1a} \\ a7 \\ \underline{a4} \\ 3 \end{array}$$

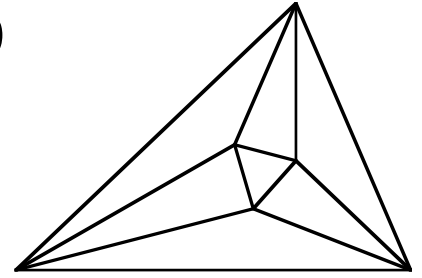
_____ 5. Find the sum of $a + b + c$:

$$\frac{47}{15} = a + \frac{1}{b + \frac{1}{c}}$$

Meet 1 - Event A 2008-2009

Answers

Questions are worth 2-2-2-4-4 points respectively.
Remember your units.



$\frac{4}{33}$ 1. $\frac{15}{35} = \frac{3}{7}$, $\frac{39}{13} = 3$, and $\frac{2}{20} = \frac{1}{10}$, so only $\frac{4}{33}$ cannot be reduced

$\frac{2}{3}$ 2. 8 blue + 10 red = 18 buttons either blue or red. $5+8+10+3+1=27$
 $\frac{18}{27} = \frac{2}{3}$

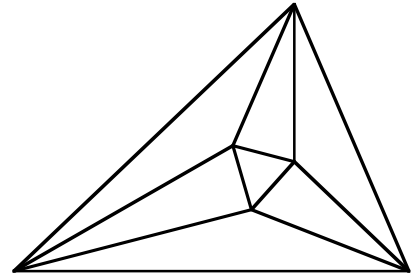
$2n-15$ 3. Note the change in Topics starting this year.

2 4. If $4 - a = a$, then $a = 2$

12 5. $\frac{47}{15} = 3 + \frac{2}{15} = 3 + \frac{1}{\frac{15}{2}} = 3 + \frac{1}{7 + \frac{1}{2}}$, $3 + 7 + 2 = 12$

Meet 1 - Event B 2008-2009

Questions are worth 2-2-2-4-4 points respectively.
Remember your units.



_____ 1. The package of six jumbo rolls of Ultra Soft tissue contains 250 sheets per roll. If three sheets are used at one time, what fraction of the package is used at one time, in reduced form?

_____ 2. Simplify:

$$\frac{-3 - 5}{4 - 12}$$

_____ 3. Write $\frac{1}{3} + \frac{3}{4} + \frac{2}{5}$ as a fraction with a denominator of 180.

_____ 4. The product of three consecutive even numbers is 97152. What is the smallest of these numbers?

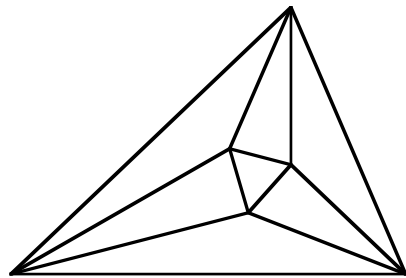
_____ 5. How many factors does 1400 have?

Name _____ School _____

Meet 1 - Event B 2008-2009

Answers

Questions are worth 2-2-2-4-4 points respectively.
Remember your units.



$$\underline{\frac{1}{500}} \quad 1. \quad 6 \times 250 = 1500 \text{ sheets, } \frac{3}{1500} = \frac{1}{500}$$

$$\underline{1} \quad 2. \quad \frac{-3-5}{4-12} = \frac{-8}{-8} = 1$$

$$\underline{\frac{267}{180}} \quad 3. \quad \frac{1 \cdot 60}{3 \cdot 60} + \frac{3 \cdot 45}{4 \cdot 45} + \frac{2 \cdot 36}{5 \cdot 36} = \frac{60 + 135 + 72}{180} = \frac{267}{180}$$

or Add $\frac{1}{3} + \frac{3}{4} + \frac{2}{5}$ on your calculator to get $\frac{89}{60}$ and multiply by 3: $\frac{89 \times 3}{60 \times 3} = \frac{267}{180}$

$$\underline{44} \quad 4. \quad \sqrt[3]{97152} = 45.97, \text{ so try 46 as the middle number. } 44 \times 46 \times 48 = 97152$$

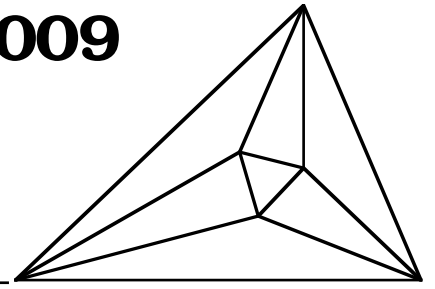
$$\underline{24} \quad 5. \quad 1400 = 2^3 \cdot 5^2 \cdot 7^1 \text{ so } (3+1)(2+1)(1+1) = 24$$

Explanation: you could choose $2^0, 2^1, 2^2,$ or 2^3 as four possible factors of 1400

Factors are 1, 2, 4, 5, 7, 8, 10, 14, 20, 25, 28, 35, 40, 50, 56, 70, 100, 140, 175, 200, 280, 350, 700, 1400

Meet 1 - Team Event 2008-2009

Questions are worth 4 points each.
Remember your units.



_____ 1. Find the sum of $a + b + c$:

$$\frac{65}{14} = 5 - \frac{1}{a + \frac{1}{2 - \frac{1}{b + \frac{1}{c}}}}$$

_____ 2. What is the largest possible sum of $a + b + c + d + e + f + g$?

$$\begin{array}{r} fa \\ ab \overline{)cde} \\ gb \\ be \\ bd \\ e \end{array}$$

_____ 3. Write the equation for: nine less than four times a number, n , is the quotient of three and four.

_____ 4. Solve for x : $\frac{x}{5} = \frac{x+21}{20}$

_____ 5. One hundredth of a second is what fraction of a minute?

_____ 6. $2n3n10n$ is divisible by 9 and 2. What is the integer n ?

_____ 7. Write as one fraction: $\frac{a}{b} + \frac{b}{c}$

_____ 8. Factor 6750 into primes to the appropriate power.

_____ 9. How many factors does 6750 have?

_____ 10. Joyce won the race in 3 minutes 43.04 seconds, and Nadia came in last in 5 minutes 5.33 seconds. The difference is what fraction of the winner's time, as a ratio of relatively prime numbers

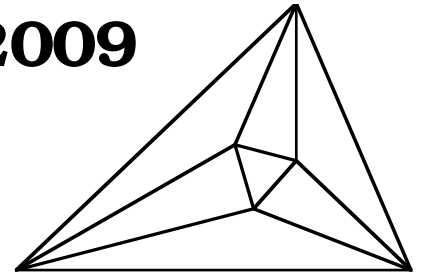
Meet 1 - Team Event

2008-2009

Answers

Questions are worth 4 points each.

Remember your units.



$$\frac{65}{14} = 5 - \frac{1}{2 + \frac{1}{2 - \frac{1}{1 + \frac{1}{3}}}}, \text{ so } 2 + 1 + 3 = 6$$

6 _____ 1.

$e - d = e \Rightarrow d = 0, \quad 0 - b = b \Rightarrow 10 - b = b \Rightarrow b = 5, \quad a(a5) = 50 \Rightarrow a = 2$

34 _____ 2. f must be odd for $f(25) = g5$. $f = 1$ and 3 will work so $f = 3$,

$g = 7, c = 8, e = 9$ for largest values. $2+5+8+0+9+3+7=34$

$4n - 9 = \frac{3}{4}$ _____ 3.

7 _____ 4. $\frac{4x}{20} = \frac{x+21}{20}$. so $4x = x+21, \quad 3x = 21, \quad x = 7$

$\frac{1}{6000}$ min. _____ 5. $\frac{0.01 \text{sec}}{60 \text{sec/min}} = \frac{0.01}{60} \text{min} = \frac{1}{6000}$

$2 + n + 3 + n + 1 + 0 + n = 6 + 3n = 9k$ and n is even

4 _____ 6. If $k = 1 \Rightarrow 6 + 3n = 9 \Rightarrow n = 1$ odd, If $k = 2 \Rightarrow 6 + 3n = 18 \Rightarrow n = 4$ even

If $k = 3 \Rightarrow 6 + 3n = 27 \Rightarrow n = 7$ odd, If $k = 4 \Rightarrow 6 + 3n = 36 \Rightarrow n = 10$ too big

$\frac{ac + b^2}{bc}$ _____ 7. $\frac{a \cdot c}{b \cdot c} + \frac{b \cdot b}{b \cdot c} = \frac{ac + b^2}{bc}$

$2 \cdot 3^3 \cdot 5^3$ _____ 8. $6750 = 2 \cdot 3^3 \cdot 5^3$

32 _____ 9. $(1+1)(3+1)(3+1) = 2(4)(4) = 32$ Each factor has either 2^0 or 2^1 ; $3^0, 3^1, 3^2$ or 3^3 ; $5^0, 5^1, 5^2$ or 5^3 ; so there are 2 possibilities with 2, 4 possibilities with 3, and 4 possibilities with 5.

$\frac{8229}{22304}$ _____ 10. $5 \text{ min } 5.33 \text{ sec} = 305.33 \text{ sec}, \quad 3 \text{ min } 43.04 \text{ sec} = 223.04 \text{ sec},$
difference is 82.89 sec, $\frac{82.89}{223.04} = \frac{8289}{22304}$