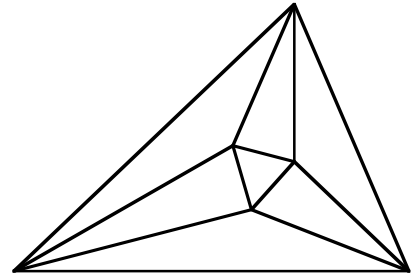


# Meet 1 - Event A 2005-2006

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



\_\_\_\_\_ 1. Which number is a prime number?  
1, 2, 6, 25, 51

\_\_\_\_\_ 2. Two numbers are relatively prime if they have no factors in common, other than 1. Which pair is relatively prime?  
3,12 or 5, 60 or 25, 42 or 14, 91

\_\_\_\_\_ 3. Which digit determines that the number 5120 is divisible by 5?  
5 or 1 or 2 or 0

\_\_\_\_\_ 4. Michael's rope was 10'2" long and Randall's rope was only 8'10" long. How much longer was Michael's rope?

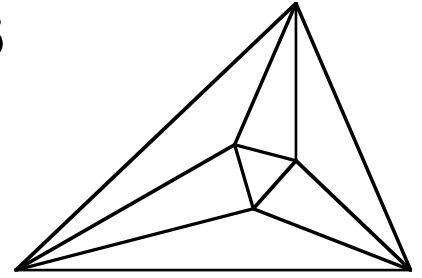
\_\_\_\_\_ 5. Find the sum of  $a+b+c$ :  
$$\frac{36}{22} = 1 + \frac{1}{a + \frac{1}{b + \frac{3}{c}}}$$

Name \_\_\_\_\_ School \_\_\_\_\_  
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# Meet 1 - Event A 2005-2006

## Answers

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



2 1. 1 is neither prime nor composite.  
 $6 = 2 \cdot 3$ ,  $25 = 5 \cdot 5$ ,  $51 = 3 \cdot 17$

25, 42 2. 3, 12 have 3 as a common factor. 5, 60 have 5 as a common factor.  
25, 42 have no common factor. 14, 91 have 7 as a common factor.

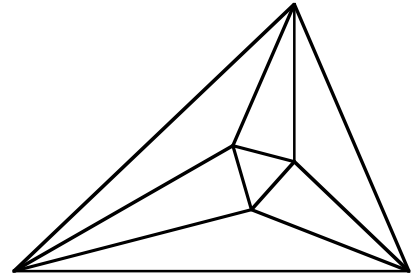
0 3. Only the zero at the right end.

1'4" 4.  $10'2" = 9'14"$   
 $\quad \quad \quad \underline{-8'10"}$   
 $\quad \quad \quad 1'4"$  or 1 foot 4 inches

6 5.  $1 + 1 + 4 = 6$   
 $\frac{36}{22} = 1 + \frac{1}{1 + \frac{1}{1 + \frac{3}{4}}}$

# Meet 1 - Event B 2005-2006

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



\_\_\_\_\_ 1. Rewrite as one fraction:

$$\frac{a}{4} + \frac{b}{5} = ?$$

\_\_\_\_\_ cm 2. How many centimeters is  $2.5 \text{ m} + 12 \text{ mm} - 3 \text{ cm}$ ?

\_\_\_\_\_ 3. Simplify to a fraction in lowest terms:

$$\frac{5-7}{-12-4}$$

\_\_\_\_\_ 4. The product of two consecutive numbers is 2756. What is the sum of the consecutive numbers?

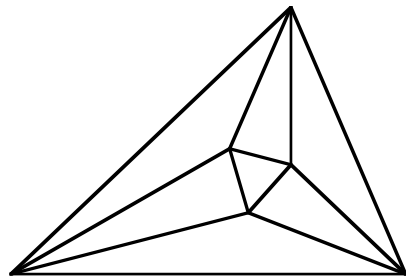
\_\_\_\_\_ 5. Rich, David, Tom, and John divided up some money. Rich got twice as much as David, Tom got  $\frac{3}{4}$  as much as John, and John got three times as much as David. If David got \$20, how much money was divided up?

Name \_\_\_\_\_ School \_\_\_\_\_

# Meet 1 - Event B 2005-2006

## Answers

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



$$\frac{5a+4b}{20} \quad 1. \quad \frac{5a}{20} + \frac{4b}{20} = \frac{5a+4b}{20}$$

$$\underline{248.2 \text{ cm}} \quad 2. \quad 2.5 \text{ m} = 250 \text{ cm}, 12 \text{ mm} = 1.2 \text{ cm}, 250 + 1.2 - 3 = 248.2 \text{ cm}$$

$$\frac{1}{4} \quad 3. \quad \frac{5-7}{-12-4} = \frac{-2}{-12+4} = \frac{-2}{-8} = \frac{1}{4}$$

$$\underline{105} \quad 4. \quad \sqrt{2756} = 52.4976 \text{ so consider } 52 \cdot 53 = 2756$$

so  $52 + 53 = 105$

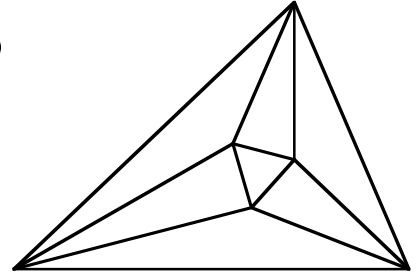
$$\underline{\$165} \quad 5. \quad \text{David} = 20, \text{ Rich} = 2(20) = 40, \text{ John} = 3(20) = 60, \text{ Tom} = \frac{3}{4}(60) = 45$$

165 with no \$  
is worth only  
3 points

$$20 + 40 + 60 + 45 = \$165$$

# Meet 1 - Event C 2005-2006

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



\_\_\_\_\_ 1. Solve for  $x$  in decimal form:

$$6.8 - 2(x - 1.4) = x + 0.6(x + 4)$$

\_\_\_\_\_ 2. Two numbers are relatively prime if they have no factors in common, other than 1. Which pair is relatively prime?

3, 12 or 5, 60 or 25, 42 or 14, 91

\_\_\_\_\_ 3. What is the greatest common factor of:

$$16xy^2, 4x^3y^3, \text{ and } 12x^2y^4?$$

\_\_\_\_\_ 4. Solve for  $x$ :  $\frac{3}{x} - \frac{5}{2x} = 12$ .

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

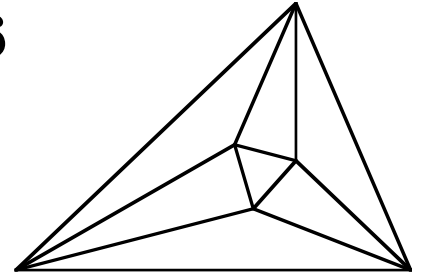
$$\frac{36}{22} = 1 + \frac{1}{a + \frac{1}{b + \frac{3}{c}}}$$

Name \_\_\_\_\_ School \_\_\_\_\_

# Meet 1 - Event C 2005-2006

## Answers

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



$$\begin{aligned} \underline{\quad 2 \quad} 1. \quad & 6.8 - 2x + 2.8 = x + 0.6x + 2.4 \\ & 6.8 + 2.8 - 2.4 = x + 0.6x + 2x \\ & 7.2 = 3.6x \\ & x = 2 \end{aligned}$$

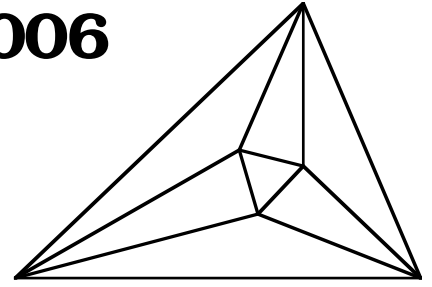
25, 49 2. 3, 12 have 3 as a common factor. 5, 60 have 5 as a common factor.  
25, 42 have no common factor. 14, 91 have 7 as a common factor.

4xy<sup>2</sup> 3. The GCF is 4xy<sup>2</sup>

$$\begin{aligned} \underline{\frac{1}{24}} 4. \quad & \frac{6}{2x} - \frac{5}{2x} = 12 \\ & \frac{1}{2x} = 12 \\ & 24x = 1 \\ & x = \frac{1}{24} \end{aligned}$$

$$\begin{aligned} \underline{6} 5. \quad & 1 + 1 + 4 = 6 \\ & \frac{36}{22} = 1 + \frac{1}{1 + \frac{1}{1 + \frac{3}{4}}} \end{aligned}$$

# Meet 1 - Team Event 2005-2006



Questions are worth 4 points each.  
Remember your units.

- \_\_\_\_\_ 1. Fourteen is four ninths of what number? Answer as a quotient of relatively prime numbers.
- \_\_\_\_\_ 2. Find the GCF of 1260, 693, and 630.
- \_\_\_\_\_ 3. Let the sum of the prime factors of  $N$  be 12. What is the smallest possible value for  $N$ ?
- \_\_\_\_\_ min 4. How many minutes is it before 8:00 PM if 36 minutes ago it was five times as many minutes past 3:00 PM?
- \_\_\_\_\_ 5. If a number is divisible by 28 with a remainder of 5, and is divisible by 9 with a remainder of 3, what is the smallest possible value for the number?
- \_\_\_\_\_ 6. Xia bought four cartons of cola at \$2.10 each, two packages of ice cream at \$3.50 each, and two bottles of flavored syrup for \$1.59 each. What was her change from a \$20 bill?
- \_\_\_\_\_ 7. Solve for  $x$ :  $\frac{x}{18} + \frac{5}{6} = 2$ .
- \_\_\_\_\_ 8. A large pail contains 1 gallon 1 quart and 1 pint of lemonade. Five cups were removed. How much was left?
- \_\_\_\_\_ 9. Factor 418600 into primes to the appropriate power.
- \_\_\_\_\_ 10. Write as one fraction:  $3\left(\frac{x}{5}\right) + 2\left(\frac{x}{6}\right)$ . Answer in reduced form.

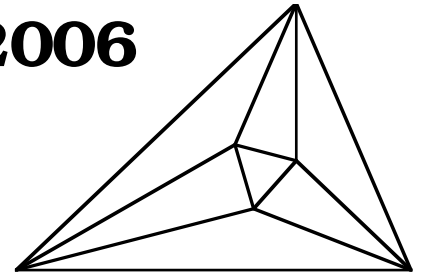
# Meet 1 - Team Event

# 2005-2006

## Answers

Questions are worth 4 points each.

Remember your units.



          $\frac{63}{2}$  1.  $14 = \frac{4}{9}x$ ,  $x = 14 \cdot \frac{9}{4} = 7 \cdot \frac{9}{2} = \frac{63}{2}$

         63 2.  $1260 = 2^2 \cdot 3^2 \cdot 5 \cdot 7$ ,  $693 = 3^2 \cdot 7 \cdot 11$ ,  $630 = 2 \cdot 3^2 \cdot 5 \cdot 7$   
They all have  $3^2 \cdot 7 = 63$  in common.

         35 3.  $N = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 = 64$        $N = 5 \cdot 7 = 35$   
 $N = 3 \cdot 3 \cdot 3 \cdot 3 = 81$                        $N = 2 \cdot 3 \cdot 7 = 42$   
 $N = 2 \cdot 5 \cdot 5 = 50$                                $N = 2 \cdot 2 \cdot 3 \cdot 5 = 60$

         44 min. 4. There are 300 minutes between 3:00 and 8:00.  
 $300 = 5x + (x + 36) = 6x + 36$ ,  $264 = 6x$ ,  $x = 44$

         201 5.  $N = 28x + 5 = 9y + 3$ , so  $28x + 2 = 9y$   
Let  $x=1, 2, 3$ , etc.  $x=7, y=22$  works

         \$1.42 6.  $4(2.10) + 2(3.50) + 2(1.59) = 18.58$ ,  $\$20 - \$18.58 = \$1.42$   
(\$ required)

         21 7.  $\frac{x}{18} = 2 - \frac{5}{6} = \frac{12-5}{6} = \frac{7}{6}$ ,  $x = \frac{18 \cdot 7}{6} = 21$

         1 gal 1 cup 8. 1 gal 1 qt 1 pt = 1 gal = 4 cups + 2 cups = 1 gal 6 cups. If 5 cups are removed, 1 gal 1 cup remain.

          $2^3 \cdot 5^2 \cdot 7 \cdot 13 \cdot 23$  9.  $2^3 \cdot 5^2 \cdot 7 \cdot 13 \cdot 23 = 418600$

          $\frac{14x}{15}$  10.  $\frac{3x}{5} + \frac{2x}{6} = \frac{18x}{30} + \frac{10x}{30} = \frac{28x}{30} = \frac{14x}{15}$