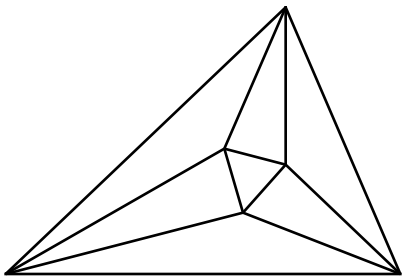
Meet 1 - Event A 2001-2002



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

_____1. On School Colors (Blue and White) Day, 14 students in Maria's class wore blue and white, 6 wore black, 5 wore red, and 3 wore purple. What fraction of the students wore blue and white, in reduced form?

_____2. If a student is 50 cm plus 2/3 of her height tall, how tall is she?

_____3. Which number is smallest?

4.02 4.003 4.1 4.0004

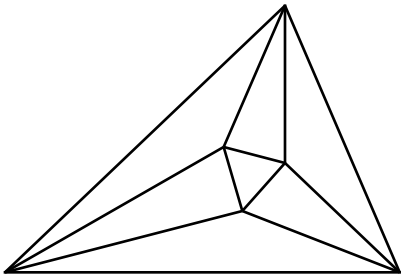
_____4. Corbin has five chains, each is three links long. He wants to make one long chain. What is the minimum number of links he must open to make one long chain?

_____5. Find the sum $a+b+c$.

$$\frac{16}{7} = a + \frac{1}{b + \frac{1}{c}}$$

Name_____School_____

Meet 1 - Event A 2001-2002 Answers



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

1/2 1. 14+6+5+3=28 students total

$$\frac{14}{28}=\frac{1}{2}$$

150 cm 2. 50 cm must be 1/3 of her height, so she is $3\times 50=150$ cm tall.

4.0004 3. To the same number of decimal places:

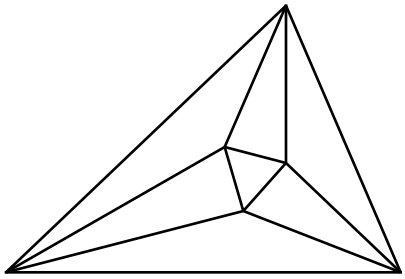
4.0200 4.0030 4.1000 4.0004

3 4. Open all three links on one chain and use them to link the other four chains together.

7 5. $$\frac{16}{7}=2+\frac{2}{7}=2+\frac{1}{\frac{7}{2}}=2+\frac{1}{3+\frac{1}{2}}$$

$2+3+2=7$

Meet 1 - Event B 2001-2002



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

_____1. Simplify to a fraction in lowest terms:

$$\frac{4+^{-}10}{^{-}3+7-^{-}2}$$

_____2. Round 27.34693 to three significant figures.

_____3. Write 4/5 as the sum of three different unit fractions. A unit fraction has a numerator equal to 1, such as 1/2.

_____4. What is the acute angle formed by the hands of a clock at 11:08 AM?

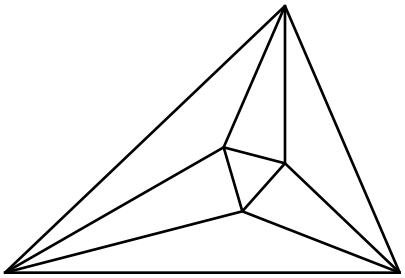
_____5. A five digit number uses five different digits, not including 0 and 1. The second digit is twice the first. The third digit is 1 less than the second digit. The fourth digit is the square of the fifth digit. The sum of the first four digits is divisible by 9.

first second third fourth fifth

What is the number?

Name_____School_____

Meet 1 - Event B 2001-2002
Answers



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

$^{-}1$ 1. $\frac{4+^{-}10}{^{-}3+7-^{-}2}=\frac{^{-}6}{6}=^{-}1$

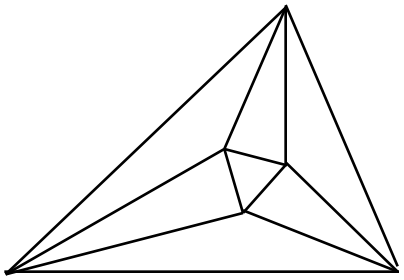
27.3 2.

$\frac{1}{2}+\frac{1}{10}+\frac{1}{5}$ or $\frac{1}{2}+\frac{1}{4}+\frac{1}{20}$ 3. $\frac{10}{20}+\frac{2}{20}+\frac{4}{20}=\frac{16}{20}=\frac{4}{5}$
$\frac{10}{20}+\frac{5}{20}+\frac{1}{20}=\frac{16}{20}=\frac{4}{5}$
(Check for other correct answers)

74° 4. At 11:00, the hour hand is 30° to the left of 12, so at 11:08, the hour hand is 30°-8 min(1/2°/min)=26° from 12. The minute hand is 8 min(6°/min)=48° to the right of 12. Therefore 26°+48°=74°.

36542 5. The last two digits must be 4 and 2 or 9 and 3, so 36542 and 48793 work until you add up the first four digits to get 18 and 28.

Meet 1 - Event C 2001-2002



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

_____1. What is the greatest common factor of $5a^2b^3$ and $10ab$?

_____2. Find the sum $a+b+c$.

$$\frac{16}{7} = a + \frac{1}{b + \frac{1}{c}}$$

_____3. The six digit number, $2a1a4c$, is divisible by 4 and 9, and a is less than c. What is a?

_____4. Solve for x as one fraction in terms of a and b.

$$\frac{3}{a} + \frac{b}{4} = x$$

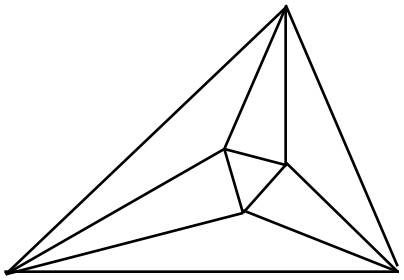
_____, _____5. If the difference between two numbers is 60 and the product is -416, what are the two numbers? Find two pairs.

_____, _____

Name_____School_____

Meet 1 - Event C 2001-2002

Answers



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

$5ab$ 1. $5 \cdot a \cdot a \cdot b \cdot b \cdot b$
$2 \cdot 5 \cdot a \cdot b$

7 2. $\frac{16}{7} = 2 + \frac{2}{7} = 2 + \frac{1}{\frac{7}{2}} = 2 + \frac{1}{3 + \frac{1}{2}}$

$2 + 3 + 2 = 7$

6 3. If the number is divisible by 4, c=0,4,8. If it is dvisible by 9,
$2 + a + 1 + a + 4 + c = 2a + 7 + c$ is divisible by 9

$2a + 7 + 0 \Rightarrow a = 1 \quad a > c$

$2a + 7 + 4 \Rightarrow a = 8 \quad a > c$

$2a + 7 + 8 \Rightarrow a = 6 \quad a < c$

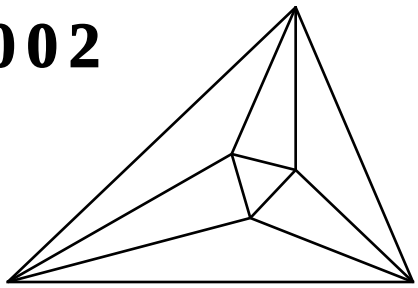
$\frac{12 + ab}{4a}$ 4. $x = \frac{12}{4a} + \frac{ab}{4a} = \frac{12 + ab}{4a}$

-8,52 (2 pts) 5. $^{-}416 = {}^{-}1 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 13$

8,-52 (2 pts) $8 \quad 52$

$52 - {}^{-}8 = 60 \quad 8 - {}^{-}52 = 60$

Meet 1 - Team Event 2001-2002



Questions are worth 4 points each.
Remember your units.

_____1. What is the greatest number of factors that a positive integer less than 50 can have?

_____2. At what time after 3 PM and before 4 PM will the minute hand overtake the hour hand, to the nearest second?

_____3. Write as one fraction: $\frac{1}{a}+\frac{2}{b}$.

_____4. Looking at a 500 piece puzzle, I counted 272 pieces that had some green color, and 1/4 of those also had some yellow color. How many pieces had green color and no yellow color?

_____5. The student council spent $60 on decorations, $200 for the band, and $50 for the custodian for the **BIG DANCE**. The tickets for the **BIG DANCE** cost $4 each. How many tickets must be sold for the student council to make a profit of at least $100?

_____6. Simplify to one improper fraction: $1+\cfrac{1}{4+\cfrac{1}{3+\cfrac{1}{5}}}$

_____7. How many two digit prime numbers end in 1 ?

_____8. Penelope's Pencils come in packages of 6, 9, and 10. What is the largest number of pencils you cannot buy exactly?

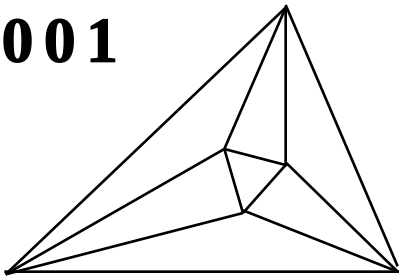
_____9. Evaluate $\frac{^{-}5.2-^{-}1.75}{3.4+^{-}10.25}$ as a fraction in lowest terms.

_____10. If a number is divisible by 35 with a remainder of 31, and has no remainder when divided by 8, what is the smallest possible value for the number?

School_____

Meet 1 - Team Event 2000-2001

Answers



Questions are worth 4 points each.
Remember your units.

10 1. $2^{\underline{5}} = 32$ has 1, 2, 4, 8, 16, 32 or 6 factors [5+1=6]
$2^{\underline{4}} \bullet 3^{\underline{1}} = 48$ has 1, 2, 3, 4, 6, 8, 16, 24, 48 or 10 factors [(4+1)(1+1)=10]
$2^{\underline{3}} \bullet 5 = 40$ has (3+1)(1+1)=8 factors
$2^{\underline{2}} \bullet 3^{\underline{2}} = 36$ has (2+1)(2+1)=9 factors
$2 \bullet 5^{\underline{2}} = 50$ has (1+1)(2+1)=6 factors

3:16:22 2. Rate of minute hand=6°/min. Rate of hour hand=0.5°/min
The time is the same, distance and rate are different

Minute hand		Hour hand	
$\frac{x^\circ}{6^\circ/\text{min}}$	=	$\frac{x^\circ - 90}{0.5^\circ/\text{min}}$	$0.5x = 6x - 540,\ 5.5x = 540,\ x = 98.\overline{18}$

Time=$98.\overline{18}$ / 6 = $16.\overline{36}$ minutes=16 minutes 22 seconds

$\frac{b+2a}{ab}$ 3. $\frac{b}{ab} + \frac{2a}{ab} = \frac{b+2a}{ab} = \frac{2a+b}{ab}$

204 4. 1/4 of 272 have both,so 3/4 of 272 have no yellow $\frac{3}{4} \times 272 = 204$

103 5. Expenses=60+200+50=$310,Exp.+Profit=310+100=$410, $\frac{\$410}{4} = 102.5$

$\frac{85}{69}$ 6. $1 + \frac{1}{4 + \frac{1}{3 + \frac{1}{5}}} = 1 + \frac{1}{4 + \frac{5}{16}} = 1 + \frac{1}{\frac{69}{16}} = 1 + \frac{16}{69} = \frac{85}{69}$

5 7. 11, 21, 31, 41, 51, 61, 71, 81, 91
3•7 3•17 9•9 7•13

23 8. You can buy 6,9,10,12,15,16,18,19,20,21,22,24,25,26,27,....
For any number greater than 23 you can subtract 6, 9, or 10 and still have a number you already know you can buy

$\frac{69}{137}$ 9. $\frac{^-3.45}{^-6.85} = \frac{345}{685} = \frac{69}{137}$ or $(^-5.2 + 1.75)/(3.4 - 10.25) = 0.50\overline{36} = \frac{69}{137}$

136 10. Let q=quotient, then n=35q+31

If q =	1	2	3	
Then $n/8$=	8.25	12.625	17	$\therefore n = 35(3) + 31 = 136$