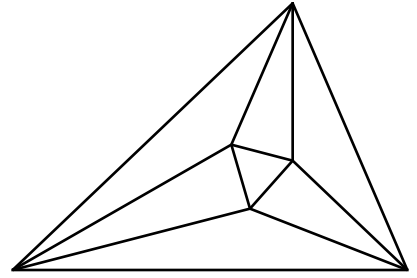


Meet 2 - Event A 2000-2001

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



_____ 1. $|8| + |-5| - |3| - |-8| = ?$

_____ 2. Write in exponent form: $2 \cdot 2 \cdot 2 \cdot 2 \cdot 3 \cdot 3 \cdot 5$

_____ 3. What is the next number in this sequence: 100, 99, 97, 94, 90, _____?

_____ 4. Write as the quotient of two factorials: $10 \cdot 9 \cdot 8 \cdot 7 \cdot 6 \cdot 5$.

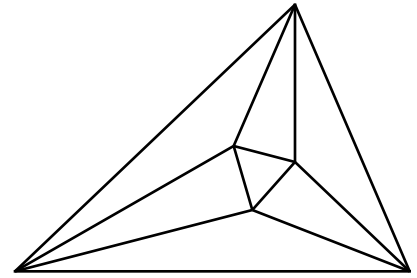
_____ 5. Write as one factorial:
 $2^{18} \cdot 19 \cdot 17 \cdot 15 \cdot 13 \cdot 11 \cdot 9 \cdot 9 \cdot 7 \cdot 7 \cdot 5 \cdot 5 \cdot 5 \cdot 3 \cdot 3 \cdot 3 \cdot 3$.

Name _____ School _____

Meet 2 - Event A 2000-2001

Answers

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



2 1. $8 + 5 - 3 - 8 = 2$

$2^4 \cdot 3^2 \cdot 5$ 2. $2^4 \cdot 3^2 \cdot 5$

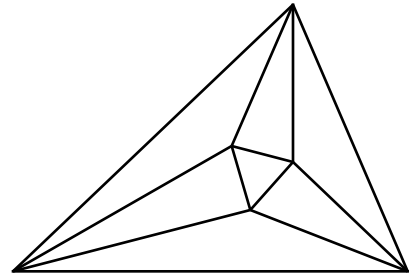
85 3. 100, 99, 97, 94, 90, ?
 \
 \
 \
 \
 \
 -1 -2 -3 -4 -5

$\frac{10!}{4!}$ 4. $\frac{10 \cdot 9 \cdot 8 \cdot 7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}{4 \cdot 3 \cdot 2 \cdot 1} = \frac{10!}{4!}$

21! 5. The 19 shows it must be at least 19!. Use the 2's to write out the factors of 19! and you get:
 $19 \cdot 18 \cdot 17 \cdot 16 \cdot 15 \cdot 14 \cdot 13 \cdot 12 \cdot 11 \cdot 10 \cdot 9 \cdot 8 \cdot 7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 7 \cdot 5 \cdot 3 \cdot 2^2$
Since $5 \cdot 2^2 = 10$ and $7 \cdot 3 = 21$, this is 21!.

Meet 2 - Event B 2000-2001

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



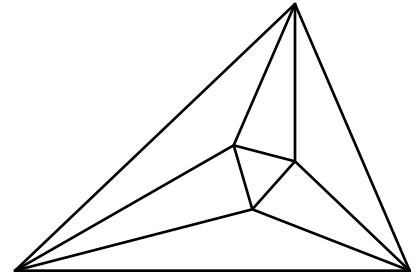
- _____ 1. Which number is largest?
 1.23×10^{-27} , 1.23×10^{-28} , 4.23×10^{-29} , 12.3×10^{-29} , 428×10^{-31}
- _____ 2. Find the midpoint between 7 and -13 .
- _____ 3. Write the algebraic expression for the quotient of a number, n , minus 4 and 15.
- _____ 4. The third exit on a highway is located at milepost 30 and the ninth exit is at milepost 150. There is a service center on the highway located two-thirds of the way from the third to the ninth exit. At what milepost would you expect to find this service center? (AMC-8, 1999)
- _____ 5. Solve for all possible values of x : $|2x - 10| = |-20|$.

Name _____ School _____

Meet 2 - Event B 2000-2001

Answers

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



1.23×10^{-27} 1. Change everything to 10^{-29}
 $123 \times 10^{-29}, 12.3 \times 10^{-29}, 4.23 \times 10^{-29}, 12.3 \times 10^{-29}, 4.28 \times 10^{-29}$

-3 2. $\frac{7+^{-}13}{2} = \frac{^{-}6}{2} = -3$

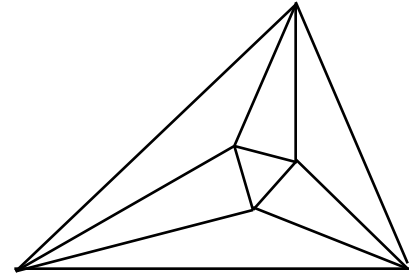
$\frac{n-4}{15}$ 3.
or $(n-4)/15$

110 4. $\begin{array}{ccc} \text{3rd} & & \text{9th} \\ \bullet & & \bullet \\ \hline 30 & 150 - 30 = 120 & 150 \\ & \frac{2}{3} \times 120 = 80 & \\ & 30 + 80 = 110 & \end{array}$

-5, 15 5. Since $|^{-}20| = 20$
 $2x - 10 = 20$ or $2x - 10 =^{-}20$
 $2x = 30$ $2x =^{-}10$
 $x = 15$ $x =^{-}5$

Meet 2 - Event C 2000-2001

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



_____ 1. Find both values of x if: $|x + 1| = 5$.

_____ 2. Use absolute value to write the algebraic expression for x is two units from seven.

_____ 3. Find the next number in this sequence: 11, 18, 27, 38, ____.

$x =$ _____ 4. Solve for both values of x : $|ax + b| = c$

$x =$ _____

_____ 5. Write as one factorial:

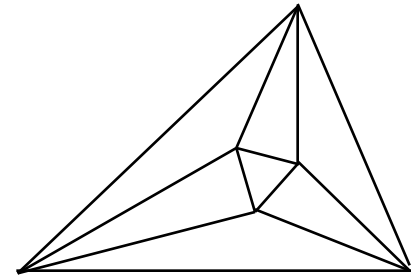
$$2^{18} \cdot 19 \cdot 17 \cdot 15 \cdot 13 \cdot 11 \cdot 9 \cdot 9 \cdot 7 \cdot 7 \cdot 5 \cdot 5 \cdot 5 \cdot 3 \cdot 3 \cdot 3 \cdot 3.$$

Name _____ School _____

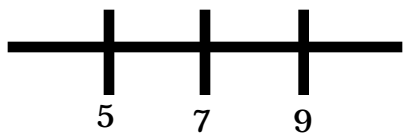
Meet 2 - Event C 1999-2000

Answers

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



4, -6 1. $x + 1 = 5$ or $x + 1 = -5$
 $x = 4$ $x = -6$

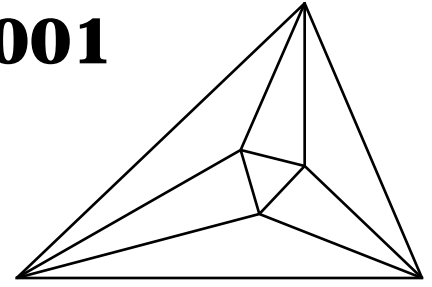
$|x - 7| = 2$ 2.  $x = 5, 9$

51 3. $3^2 + 1, 4^2 + 1, 5^2 + 1, 6^2 + 1, 7^2 + 1$

$x = \frac{c - b}{a}$ 4. $ax + b = c$ or $ax + b = -c$
 $x = \frac{-b - c}{a}$ $ax = c - b$ $ax = -b - c$
or $x = \frac{-c - b}{a}$ $x = \frac{c - b}{a}$ $x = \frac{-b - c}{a}$

21! 5. The 19 shows it must be at least 19!. Use the 2's to write out the factors of 19! and you get:
 $19 \cdot 18 \cdot 17 \cdot 16 \cdot 15 \cdot 14 \cdot 13 \cdot 12 \cdot 11 \cdot 10 \cdot 9 \cdot 8 \cdot 7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 7 \cdot 5 \cdot 3 \cdot 2^2$
 Since $5 \cdot 2^2 = 10$ and $7 \cdot 3 = 21$, this is 21!.

Meet 2 - Team Event 2000-2001



Questions are worth 4 points each.
Remember your units.

- _____ 1. What is the value of $5^0 - 5^{-1}$ as one fraction with positive exponents?
- _____ 2. Write as a decimal: $10^{-150} \times 10^{140} \times 10^{12}$.
- _____ 3. Solve for x : $x^4 = 9^2$.
- _____ 4. Find the midpoint of 0.15 and 7.35.
- _____ 5. Simplify: $\frac{5x^3yz}{30x^2y^3z}$
- _____ 6. Write as an algebraic equation: twice a number, n , is seven more than the number.
- _____ 7. If eight less than twice a number is twelve, what is the number?
- _____ 8. What value is $\frac{3}{4}$ of the way from -15 to 45?
- _____ 9. Solve for both values of x : $|3x| = 5$.
- _____ 10. What is the next number in the sequence: 99, 33, 11, ___?

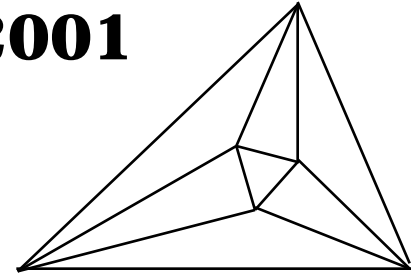
School _____

Meet 2 - Team Event

2000-2001

Answers

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



4/5 1. $5^0 = 1, 5^{-1} = \frac{1}{5}, \text{ so } 1 - \frac{1}{5} = \frac{5}{5} - \frac{1}{5} = \frac{4}{5}$

100 2. $10^{(-150+140+12)} = 10^2 = 100$

3 3. $9 = 3^2 \text{ so } x^4 = (3^2)^2 = 3^4, x = 3$

3.75 4. $\frac{0.15 + 7.35}{2} = \frac{7.50}{2} = 3.75$

$\frac{x}{6y^2}$ 5. $\frac{\cancel{x} \cdot x \cdot \cancel{x} \cdot \cancel{x} \cdot \cancel{y} \cdot \cancel{y}}{\cancel{x} \cdot 6 \cdot \cancel{x} \cdot \cancel{x} \cdot y \cdot y \cdot \cancel{y} \cdot \cancel{y}} = \frac{x}{6y^2}$

$2n = 7 + n$ 6.
or $2n = n + 7$

10 7. $2x - 8 = 12, 2x = 20, x = 10$

30 8. $45+15=60 \text{ total distance, } \frac{3}{4} \times 60 = 45, -15+45=30$

$\frac{5}{3}, \frac{-5}{3}$ 9. $3x = 5, x = \frac{5}{3} = 1\frac{2}{3}; 3x = -5, x = \frac{-5}{3} = -1\frac{2}{3}$
or $1\frac{2}{3}, -1\frac{2}{3}$ or $1.\bar{6}, -1.\bar{6}$

$\frac{11}{3}$ or $3\frac{2}{3}$ 10. $\frac{99}{3} = 33, \frac{33}{3} = 11, \frac{11}{3} = 3\frac{2}{3}$