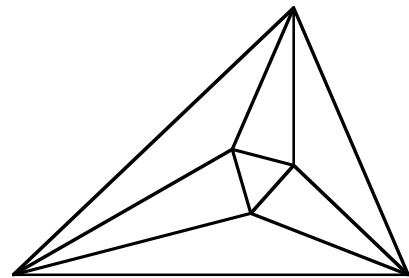


Meet 2 - Event A 2007-2008

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



_____ 1. $|7 - 3| - |1 - 8| = ?$

_____ 2. What is 4000 divided by 2×10^{-3} in scientific notation?

_____ 3. Write $4x^{-2}$ as an expression with a positive exponent.

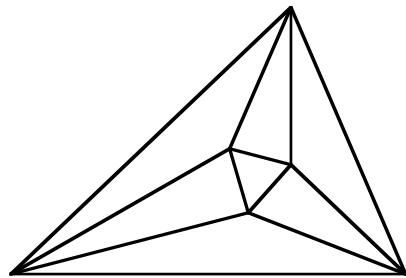
_____ 4. What number is next? 14, 11, 8, 5, 2, _____

_____ 5. Write as one factorial number: $2^{11} \cdot 3^5 \cdot 5^2 \cdot 7^2 \cdot 11 \cdot 13$.

Meet 2 - Event A 2007-2008

Answers

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



-3 1. $|7 - 3| = |4| = 4$, $|1 - 8| = |-7| = 7$, $4 - 7 = -3$

2×10^6 2. $\frac{4000}{0.002} = 2000000 = 2 \times 10^6$ or $\frac{4 \times 10^3}{2 \times 10^{-3}} = 2 \times 10^{3 - (-3)} = 2 \times 10^6$

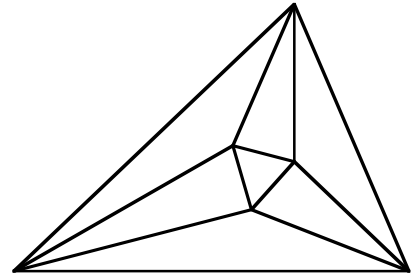
$\frac{4}{x^2}$ 3. $4x^{-2} = 4 \cdot \frac{1}{x^2} = \frac{4}{x^2}$

-1 4. Subtract 3 from one term to the next, so $2 - 3 = -1$

14! 5. 13! is the smallest it could be, so $13 \cdot 12 \cdot 11 \cdot 10 \cdot 9 \cdot 8 \cdot 7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2$ uses up all except $2 \cdot 7$, so 14!. Actually, 7^2 tells you 14 is a factor and 5^2 tells you 5 and 10 are there, but not 15, so 14! it must be.

Meet 2 - Event B 2007-2008

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



_____ 1. What is the midpoint of $|-7|$ and -5 ?

_____ 2. What is the coordinate of the point $3/4$ of the way from -4 to 20 ?

_____ 3. Write as a ratio of relatively prime numbers without exponents:
 $3^{-3} + 9 + 6 \times 3^{-4}$

_____ 4. What integer is next in this sequence? $81, 16, 1, 0, 1, 16, 81, \underline{\hspace{1cm}}$

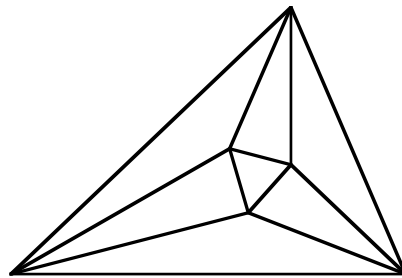
_____ 5. Solve for x : $-3x = |2x - 3|$

Name _____ School _____

Meet 2 - Event B 2007-2008

Answers

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



_____ 1. $|^{-}7| = 7$ so $\frac{7+^{-}5}{2} = \frac{2}{2} = 1$

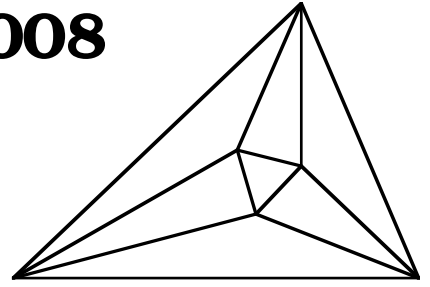
_____ 14 2. $20 - ^{-}4 = 24$, $24 \times \frac{3}{4} = 18$, $-4 + 18 = 14$, or $\frac{^{-}4 + 20}{2} = 8$, $\frac{8 + 20}{2} = 14$

_____ $\frac{82}{9}$ 3. $\frac{1}{27} + 9 + \frac{^2\cancel{8}}{27\cancel{8}} = \frac{1}{27} + \frac{243}{27} + \frac{2}{27} = \frac{246}{27} = \frac{82}{9}$

_____ 256 4. The positive integers below zero suggest integers raised to an even power.
 $16 = 4 \cdot 4 = 2 \cdot 2 \cdot 2 \cdot 2 = 2^4$, $81 = 9 \cdot 9 = 3 \cdot 3 \cdot 3 \cdot 3 = 3^4$. so $4^4 = 256$

_____ -3 5. $-3x = 2x - 3$, $-5x = -3$, $x = \frac{3}{5}$, $-3\left(\frac{3}{5}\right) \neq \left|2 \cdot \frac{3}{5} - 3\right|$
or $3x = 2x - 3$, $x = ^{-}3$, $-3(^{-}3) = |^{-}6 - 3|$, $9 = 9$

Meet 2 - Team Event 2007-2008



Questions are worth 4 points each.
Remember your units.

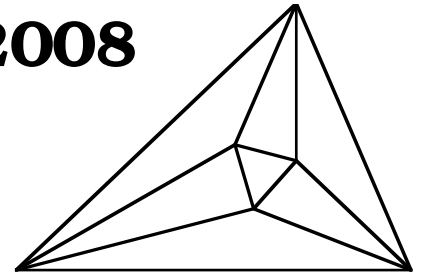
- _____ 1. Write the algebraic expression for the product of 3 and the sum of a number, n , and seven.
- _____ 2. Write the equation for a number, x , that is the quotient of fourteen and the number minus two.
- _____ 3. Find the midpoint of 2×10^{-5} and 2×10^5 .
- _____ 4. Determine the sum of both values of x if $|x + 4| = 5$.
- _____ 5. Write $3!(5!)$ as one factorial.
- _____ 6. Let a, b, c, d , and e be distinct (different) integers such that $a \cdot b \cdot c \cdot d \cdot e = 50$.
What is $a + b + c + d + e$?
- _____ 7. Ted factored $n!$ into prime factors, but when he wrote them out, all were unreadable except 7^8 , What is the lowest possible value for n ?
- _____ 8. Write as one fraction in reduced form: $a^{-4} + a^2 + a^{-3}$.
- _____ 9. If $a, b > 0$, under what conditions is $-(a - b) = |a - b|$?
- _____ 10. If $a + 14 = 5 + a + c$ and $12 + d = d + b + c$, find the numerical value for b .

Meet 2 - Team Event

2007-2008

Answers

Questions are worth 4 points each.
Remember your units.



3(n+7) 1.

$x = \frac{14}{x-2}$ 2.

100000.00001 3. $\frac{0.00002 + 200000}{2} = \frac{200000.00002}{2} = 100000.00001$

$^{-}8$ 4. $x+4=5, x=1$ and $x+4=^{-}5, x=^{-}9$ so $1+^{-}9=^{-}8$

6! 5. $(3 \cdot 2 \cdot 1) \cdot (5 \cdot 4 \cdot 3 \cdot 2 \cdot 1) = 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1 = 6!$

2 6. $50 = 2 \cdot 5 \cdot 5 = ^{-}1 \cdot 1 \cdot 2 \cdot ^{-}5 \cdot 5$ gives us five distinct factors. $^{-}1 + 1 + 2 + ^{-}5 + 5 = 2$

49 7. 7^8 gives us 7, $2 \cdot 7$, $3 \cdot 7$, $4 \cdot 7$, $5 \cdot 7$, $6 \cdot 7$, $7 \cdot 7$ as factors, so 49! is the lowest possibility, $n=49$

$\frac{1+a^6+a}{a^4}$ 8. $\frac{1}{a^4} + a^2 + \frac{1}{a^3} = \frac{1}{a^4} + \frac{a^6}{a^4} + \frac{a}{a^4} = \frac{1+a^6+a}{a^4}$

$b > a$ 9. $-(a-b) = -a+b = b-a = |a-b|$ only when $b > a$

3 10. $d+14 = 5+d+c \Rightarrow c=9$, $12+d = d+b+9 \Rightarrow b=3$