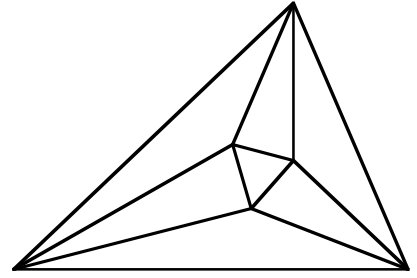


Meet 2 - Event A 2010-2011

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

NO CALCULATORS ALLOWED



_____1. What is the value of $5!$?

_____2. What is the next integer?
50, 49, 47, 44, _____

_____3. What is the smallest value of x that satisfies: $|x + 2| = 4$?

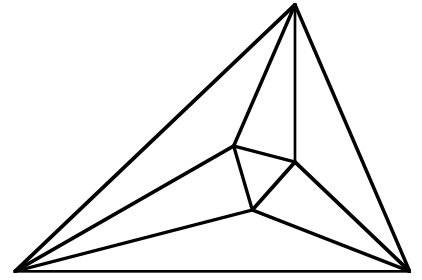
_____4. What is 36800000 divided by 2×10^{-4} in scientific notation?

_____5. Solve for x : $3(x - 2) = 2x + 5$.

Meet 2 - Event A 2010-2011

Answers

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



120 1. $5 \cdot 4 \cdot 3 \cdot 2 \cdot 1 = 120$

40 2.
$$\begin{array}{cccccc} 50 & 49 & 47 & 44 & 40 & \\ \backslash & / & \backslash & / & \backslash & / \\ -1 & -2 & -3 & -4 & & \end{array}$$

-6 3. $x + 2 = 4, x = 2$ or $x + 2 = -4, x = -6$

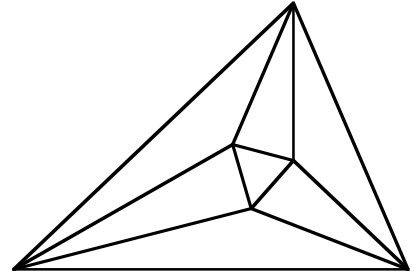
1.84×10^{11} 4. $36800000 = 3.68 \times 10^7, \frac{3.68 \times 10^7}{2 \times 10^{-4}} = 1.84 \times 10^{7-(-4)}$

11 5. $3x - 6 = 2x + 5, x - 6 = 5, x = 11$

Meet 2 - Event B 2010-2011

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

NO CALCULATORS ALLOWED



_____ 1. What is the midpoint between -2.86 and 14 ?

_____ 2. Evaluate: $|-2| - |-3| - 2|-1 - 4|$.

_____ 3. Simplify: $\frac{6!3!}{8!}$.

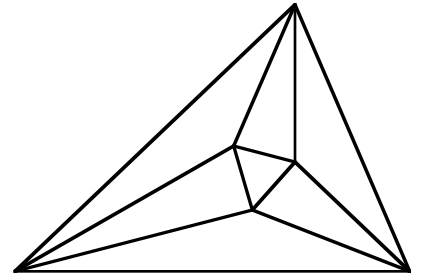
_____ 4. What is the coordinate of the point one-sixth of the way from -12 to 18 ?

_____ 5. The number 56700 can be factored into the primes 2 , 3 , 5 , and 7 raised to the appropriate powers. All of the factors can be expressed as a product of these primes raised to a power. Write 20 as a product of each of these primes.

Meet 2 - Event B 2010-2011

Answers

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



$$\underline{5.57} \quad 1. \quad \frac{-2.86 + 14}{2} = \frac{11.14}{2} = 5.57$$

$$\underline{-11} \quad 2. \quad 2 - 3 - 2|5| = 2 - 3 - 2(5) = 2 - 3 - 10 = -11$$

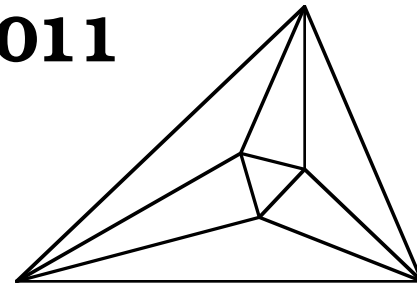
$$\underline{\frac{3}{28}} \quad 3. \quad \frac{\cancel{6} \cdot \cancel{5} \cdot \cancel{4} \cdot \cancel{3} \cdot \cancel{2} \cdot \cancel{3} \cdot \cancel{2}}{\cancel{8} \cdot \cancel{4} \cdot \cancel{7} \cdot \cancel{6} \cdot \cancel{5} \cdot \cancel{4} \cdot \cancel{3} \cdot \cancel{2}} = \frac{3}{28}$$

$$\underline{-7} \quad 4. \quad 18 - ^{-}12 = 30, \quad \frac{1}{6} \times 30 = 5, \quad ^{-}12 + 5 = -7$$

$$\underline{2^2 \cdot 3^0 \cdot 5^1 \cdot 7^0} \quad 5. \quad 20 = 2^2 \cdot 5 \text{ so we need each of the other primes to have a power of zero.}$$
$$20 = 2^2 \cdot 3^0 \cdot 5^1 \cdot 7^0$$

Meet 2 - Team Event 2010-2011

Questions are worth 4 points each.
Remember your units.



NO CALCULATORS ALLOWED

_____ 1. Evaluate $\frac{n!}{r!(n-r)!}$ if $n=6$ and $r=2$.

_____ 2. Solve for r if $\frac{8!}{r!(8-r)!} = 56$.

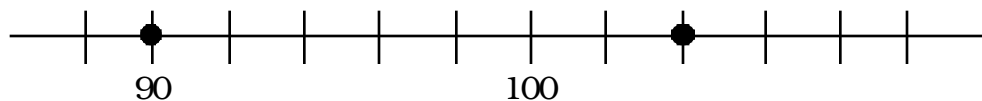
_____ 3. What factorial has the same value as $2^{10} \cdot 3^5 \cdot 5^2 \cdot 7 \cdot 11$?

_____ 4. Solve for x : $3(x-4) + 5 = 10 - 2(10-x)$.

_____ 5. What is the next term in this sequence: $\frac{1}{8}, \frac{1}{4}, \frac{3}{8}, \frac{1}{2}, \frac{5}{8}, \underline{\hspace{1cm}}$.

_____ 6. Solve for both values of x : $|12x + 5| = 53$

_____ 7. Write the absolute value equation for this graph:



_____ 8. If the midway mile marker is 204 and the end of the trip is at mile marker 87, at what mile marker did the trip start? Assume the entire trip was on one road.

_____ 9. If -2 is the coordinate $\frac{1}{5}$ of the way from A to B , and 6 is the coordinate $\frac{3}{5}$ from A to B , what is the coordinate of A ?

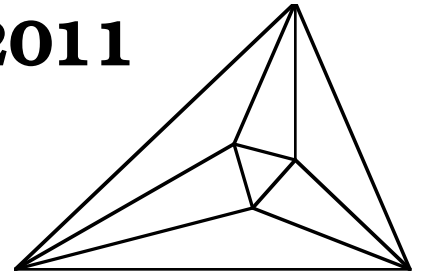
_____ 10. Solve for x : $|x + 12| = 3x$

Meet 2 - Team Event

2010-2011

Answers

Questions are worth 4 points each.
Remember your units.



_____ 15 _____ 1. $\frac{6!}{2!4!} = \frac{\cancel{6} \cdot \cancel{5} \cdot \cancel{4} \cdot \cancel{3} \cdot \cancel{2}}{\cancel{2} \cdot \cancel{4} \cdot \cancel{3} \cdot \cancel{2}} = 15$

_____ $r = 3$ or 5 _____ 2. $8 \cdot 7 = 56$, so $6!$ must be in the denominator, $\frac{8 \cdot 7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2}{6 \cdot 5 \cdot 4 \cdot 3 \cdot 2}$, but $6 = 3 \cdot 2$
so $\frac{8!}{3!5!}$ works.

_____ 12! _____ 3. $2 \cdot 3 \cdot 2^2 \cdot 5 \cdot (2 \cdot 3) \cdot 7 \cdot 2^3 \cdot 3^2 \cdot (2 \cdot 5) \cdot 11$ is $11!$ with $2^2 \cdot 3 = 12$ left over

_____ -3 _____ 4. $3x - 12 + 5 = 10 - 20 + 2x$, $3x - 7 = -10 + 2x$, $x - 7 = -10$, $x = -3$

_____ $\frac{3}{4}$ _____ 5. $\frac{1}{8}, \frac{2}{8}, \frac{3}{8}, \frac{4}{8}, \frac{5}{8}, \frac{6}{8} = \frac{3}{4}$

_____ $4, -4\frac{5}{6}$ _____ 6. $12x + 5 = 53, 12x = 48, x = 4$ or $12x + 5 = -53, 12x = -58, x = -4\frac{10}{12} = -4\frac{5}{6}$

_____ $|x - 97| = 7$ _____ 7. $104 - 90 = 14$, $\frac{14}{2} = 7$, $90 + 7 = 97$
or $|97 - x| = 7$

_____ 321 _____ 8. $204 - 87 = 117$, $204 + 117 = 321$

_____ -6 _____ 9. $\frac{3}{5} - \frac{1}{5} = \frac{2}{5}$, $6 - \frac{2}{5} = 8$, If $\frac{2}{5}$ of AB is 8 , $\frac{1}{5}$ is 4 . $-2 - 4 = -6$

_____ 6 _____ 10. $x + 12 = 3x, 12 = 2x, x = 6$ or $x + 12 = -3x, 4x = -12, x = -3$
Check: $|6 + 12| = 3(6)$ or $18 = 18$ $|-3 + 12| = 3(-3)$ or $9 = -9$ nope