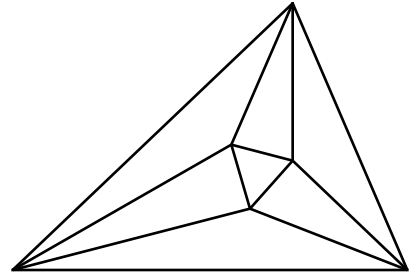
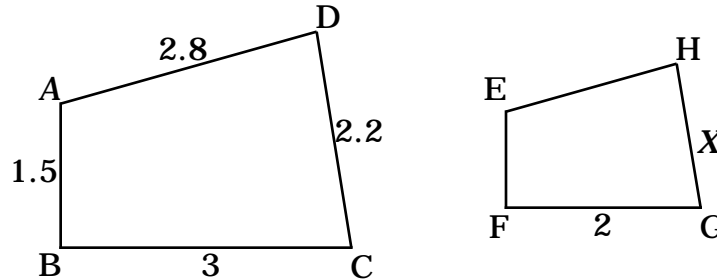


Meet 4 - Event A 2001-2002

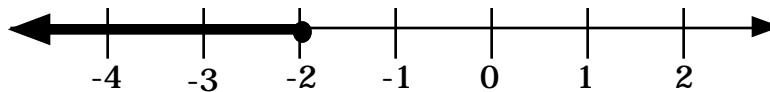
Questions are worth 2-2-2-4-4 points respectively.
Remember your units.



_____ 1. $ABCD \approx EFGH$. How long is side GH to one decimal place?

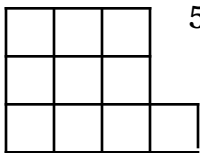


_____ 2. Write the inequality represented by this graph.



_____ 3. If Albert makes 35% less than Barb, and Carl makes 75% more than Barb, what percent (to the nearest hundredth) of Carl's salary is Albert's salary?

_____ 4. Simplify the radical: $\sqrt{300}$.

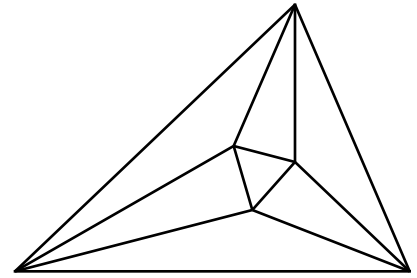


5. Show where to cut this figure into four pieces so that it can be rearranged to form a square.

Meet 4 - Event A 2001-2002

Answers

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

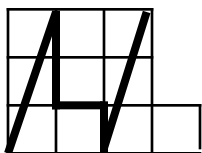


1.5 1. $\frac{2.2}{3} = \frac{x}{2}, \quad 3x = 4.4, \quad x = 1.4\bar{6}$

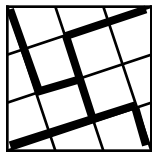
$x \leq 2$ 2.

37.14% 3. $A = 0.65B = (B - 0.35B), \quad C = 1.75B = (B + 0.75B),$
 $\frac{A}{C} = \frac{0.65}{1.75} = 0.371428 = 37.14\%$

$10\sqrt{3}$ 4. $\sqrt{2 \cdot 2 \cdot 3 \cdot 5 \cdot 5} = 2 \cdot 5\sqrt{3}$ or $\sqrt{3 \cdot 10 \cdot 10} = 10\sqrt{3}$



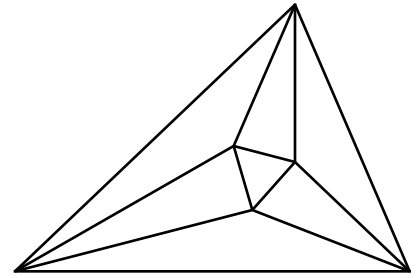
5.



Ten squares requires that one side be $\sqrt{10}$, which is the hypotenuse of a 1 - 3 - $\sqrt{10}$ right triangle.

Meet 4 - Event B 2001-2002

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



_____ 1. Solve for x : $5 - x \leq 20$.

_____ 2. What is the exact length of the diagonal of a square with sides of 6 inches?

_____ 3. What is the lowest value of x that satisfies this inequality?
 $|3 + x| \leq 100$

_____ 4. What is the lowest value of y that satisfies this inequality?
 $|3 + x| + |4 + y| \leq 100$

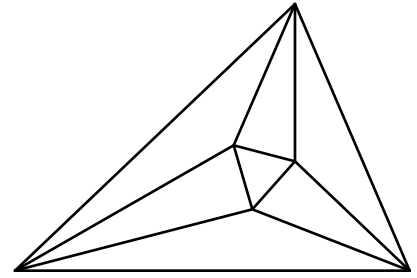
_____ 5. At 10:30 AM, the shadow of a tree is 4.5 meters long, and the shadow of a vertical meter stick is 90 cm long. How tall is the tree?

Name _____ School _____

Meet 4 - Event B 2001-2002

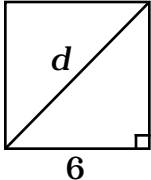
Answers

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




 $x \geq 25$ 1. $-x \leq -25$ $x \geq 25$

 $\frac{\sqrt{72}}{\text{in}}$ 2. or $6\sqrt{2}$ in



$$d = \sqrt{6^2 + 6^2} = \sqrt{72} = 6\sqrt{2}$$

 -103 3. $3 + x = 100$ $+3 + x = -100$
 $x = 97$ $+x = -103$
 Test a value such as $x = 0$, $|3| \leq 100$.

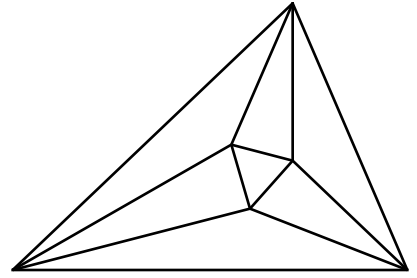


 -104 4. Consider extremes. If $|3 + x| = 100$, then $y = -4$. If $|3 + x| = 0$, then $|4 + y| \leq 100$, so $-104 \leq y \leq 96$.

 5 m 5. 90 cm = 0.9 m and a meter stick = 1 m.
 $\frac{x}{1} = \frac{4.5}{0.9}$ $x = 5$ m

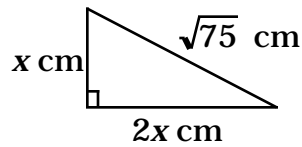
Meet 4 - Event C 2001-2002

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



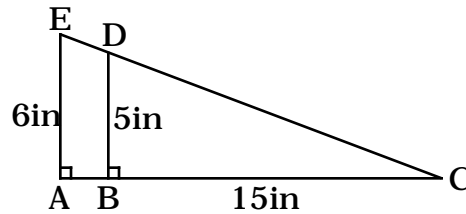
_____ 1. If $0 < a < b$, then $\frac{1}{a} ? \frac{1}{b}$.

_____ 2. Solve for x in this right triangle.

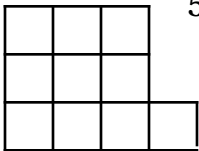


_____ 3. If Albert makes 35% less than Barb, and Carl makes 75% more than Barb, what percent (to the nearest hundredth) of Carl's salary is Albert's salary?

_____ 4. Find the length of CE to 2 decimal places.



_____ 5. Show where to cut this figure into four pieces so that it can be rearranged to form a square.

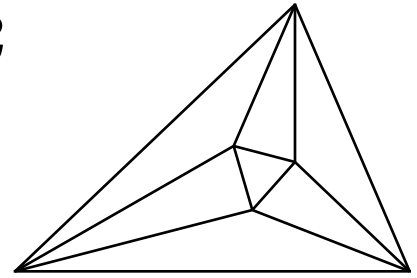


Name _____ School _____

Meet 4 - Event C 2001-2002

Answers

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

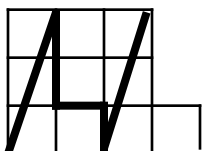


 > 1. $\frac{1}{a} > \frac{1}{b}$ Examples $2 < 3$ and $\frac{1}{2} > \frac{1}{3}$

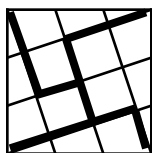
$\sqrt{15}$ cm 2. $x^2 + 4x^2 = 75$
 $5x^2 = 75$
 $x^2 = 15$
 $x = \sqrt{15}$

37.14% 3. $A = 0.65B = (B - 0.35B), C = 1.75B = (B + 0.75B),$
 $\frac{A}{C} = \frac{0.65}{1.75} = 0.371428 = 37.14\%$

18.97in 4. $\triangle ACE \approx \triangle BCD$ so
 $\frac{6}{5} = \frac{AC}{15}, AC = \frac{6 \cdot 15}{5} = 18$
 $CE = \sqrt{6^2 + 18^2} = \sqrt{360} = 18.9736$



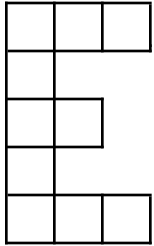
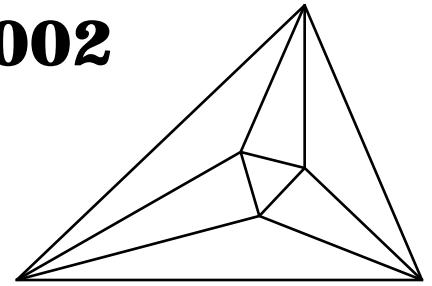
5.



Ten squares requires that one side be $\sqrt{10}$, which is the hypotenuse of a 1 - 3 - $\sqrt{10}$ right triangle.

Meet 4 - Team Event 2001-2002

Questions are worth 4 points each.
Remember your units.

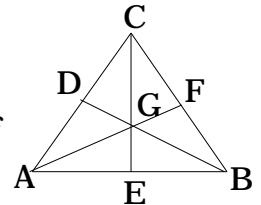


1. Show where to cut this E into four pieces so that they can be rearranged to form a square.

- _____ 2. How many positive integer factors does $3^3 \cdot 5^4 \cdot 13^{11}$ have?

- _____ 3. If $\sqrt{34^2 + 34^2 + K + 34^2} = 34^2$, how many times must 34^2 appear in the radicand?

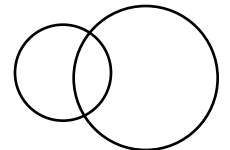
- _____ 4. $\triangle ABC$ is equilateral with altitudes (heights) of AF, BD, and CE intersecting at G. If AB=6 cm, find the length of CE in simplified radical form.



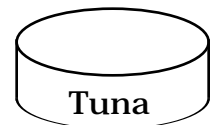
- _____ 5. In problem 4, the altitudes intersect at point G, which is $\frac{2}{3}$ of the way from C to E. Find the perimeter of $\triangle ADG$ in simplified radical form.

- _____ 6. In problem 4, find the area of quadrilateral EBF G in simplified radical form.

- _____ 7. A circle of radius 2 cm overlaps a circle of radius 3 cm. Find the difference in the areas of the non-overlapping regions in terms of π .



- _____ 8. A can of tuna has a diameter of 8.5 cm and height of 3.5 cm. The paper label overlaps 1 cm where it is glued together. How much paper (area) is needed for the label, to the nearest hundredth?



- _____ 9. A TV is discounted 25%. After 6.5% sales tax is added on, the TV costs \$223.17. What was the original (non-discounted) price?

- _____ 10. If the area of $\triangle ABC$ is 25 cm^2 , and the area of a similar triangle $\triangle DEF$ is 36 cm^2 , what is the ratio of the height of $\triangle ABC$ to the height of $\triangle DEF$?

School _____

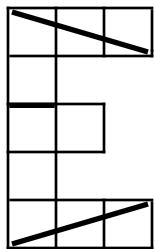
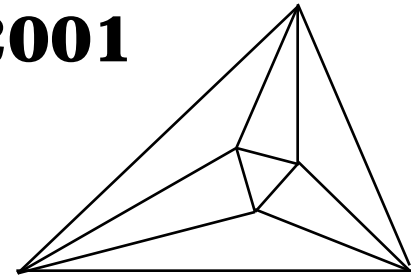
Meet 4 - Team Event

2000-2001

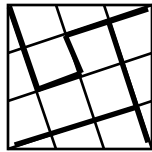
Answers

Questions are worth 4 points each.

Remember your units.



1.



240

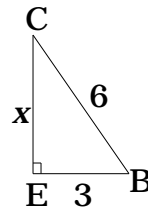
2. Add 1 to each exponent and multiply. See Meet 2 Team answers.
 $(3+1)(4+1)(11+1)=(4)(5)(12)=240$

1156

3. $\sqrt{34^2 \cdot 34^2} = 34^2$, so the answer is $34^2=1156$

$3\sqrt{3}$ cm

4. $x = \sqrt{36 - 9} = \sqrt{27} = 3\sqrt{3}$



$3 + 3\sqrt{3}$ cm

5. $\frac{2}{3}CE = \frac{2}{3}(3\sqrt{3}) = 2\sqrt{3}$, $AD = 3$, $AG = 2\sqrt{3}$, $DG = \sqrt{3}$
 $P = 3 + 2\sqrt{3} + \sqrt{3}$

$3\sqrt{3}$ cm²

6. $A_{EBFG} = 2A_{\triangle EBG} = 2\left(\frac{1}{2} \cdot 3 \cdot \sqrt{3}\right)$

5π cm²

7. Let A be the overlapping area. $(9\pi - A) - (4\pi - A) = 9\pi - A - 4\pi + A = 5\pi$ cm²

96.96 cm²

8. Area of label = $\pi dh + 1h$, $A = \pi \cdot 8.5 \cdot 3.5 + 3.5 = 96.962$

\$279.40

9. Sale price = $\$223.17 / 1.065 = \209.55
 Original price = $\$209.55 / 0.75 = \279.40

5:6

10. $\sqrt{25} = 5$, $\sqrt{36} = 6$

or $\frac{5}{6}$ or 5 to 6