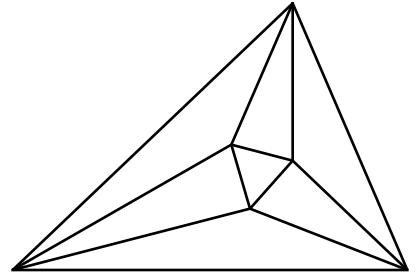
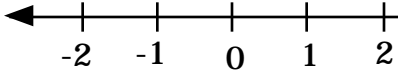


Meet 4 - Event A 2000-2001

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

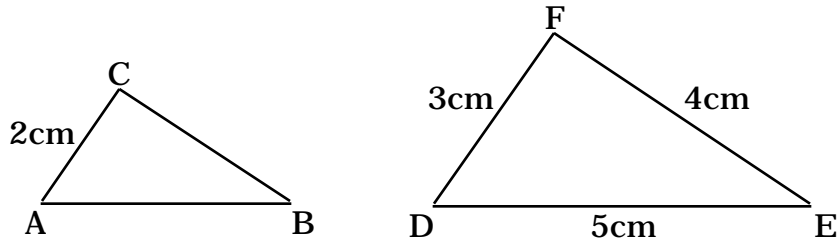


1. Mark $x > 1$ on the number line.



2. Find the surface area of a cube where the top is 4 cm^2 .

3. $\triangle ABC \sim \triangle DEF$. How long is side AB?



4. Johnny paid Bug Exterminators \$362.10 to kill the bugs in his large house. How much of this was 6.5% sales tax?

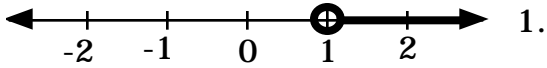
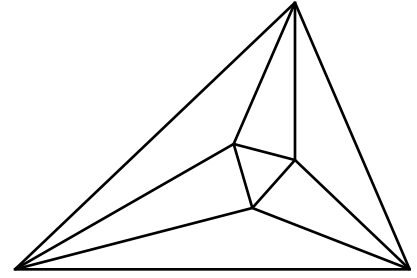
5. The canvas roof of an 8-sided screen enclosure was made up of 8 equal triangles. Each triangle has two sides of 4 feet and one side of 3 feet. How much canvas was needed for the roof, to the nearest tenth, ignoring sewing seams?

Name _____ School _____

Meet 4 - Event A 2000-2001

Answers

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

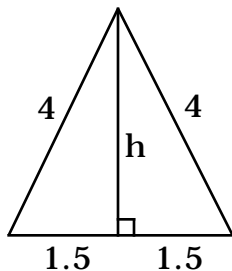


24 cm² 2. There are 6 equal sides to a cube, so $6 \times 4 = 24$

$3\frac{1}{3}$ cm
or $3.\bar{3}$ cm 3. $\frac{AC}{DF} = \frac{AB}{DE}$ so $\frac{2}{3} = \frac{AB}{5}$, $AB = \frac{10}{3}$ cm

\$22.10 4. $1.065x = 362.10$
 $x = 340.00$
 $352.10 - 340 = 22.10$

44.5 ft² 5.



$$h = \sqrt{4^2 - 1.5^2} = \sqrt{13.75} = 3.71$$

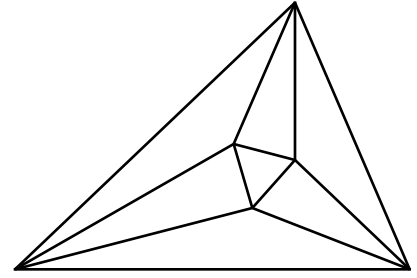
$$A = \frac{1}{2}(3)(3.71) = 5.56$$

$$8 \times 5.56 = 44.52$$

$$\text{or } 8(0.5)(3)\sqrt{13.75} = 44.49$$

Meet 4 - Event B 2000-2001

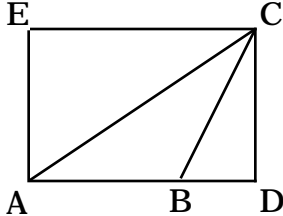
Questions are worth 2-2-2-4-4 points respectively.
Remember your units.



_____ 1. Simplify: $\sqrt{3 \cdot 4 \cdot 4 \cdot 5 \cdot 36}$

_____ 2. Marsha bought a sweater with a marked price of \$68.95. She received an employee discount of 10% and then paid 6 1/2 % sales tax. How much did she pay?

_____ 3. Solve for x if $3(4 - x) > 9$

_____ 4.  Find the area of the triangle ABC if ADCE is a rectangle and AE=3cm, EC=7cm, and BD=2cm. Answer in decimal form

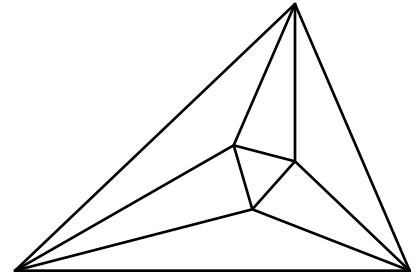
_____ 5. Find the perimeter of $\triangle ABC$ in problem 4 to 2 decimal places.

Name _____ School _____

Meet 4 - Event B 2000-2001

Answers

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



$24\sqrt{15}$ 1. The perfect squares are 4 and 36 so $2 \cdot 2 \cdot 6\sqrt{3 \cdot 5} = 24\sqrt{15}$

\$66.09 2. $0.9(68.95)=62.055=\$62.06$ cost, $1.065(62.06)=66.0939$

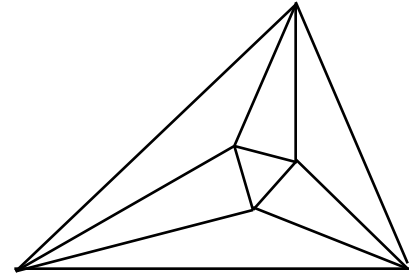
$x < 1$ 3. $3(4 - x) > 9$ or $3(4 - x) = 9$ when $x = 1$, and
 $(4 - x) > 3$ check $x = 0$ and $x = 2$
 $-x > -1$ to determine $<$ or $>$
 $x < 1$

7.5cm^2 4. $AB=EC-BD=7-2=5=\text{base}$
 $AE=3=\text{height}$
 $A = \frac{1}{2}(5)(3) = \frac{15}{2} = 7.5\text{cm}^2$

16.22cm 5. $AC = \sqrt{AE^2 + EC^2} = \sqrt{9 + 49} = \sqrt{58}$
 $BC = \sqrt{CD^2 + BD^2} = \sqrt{9 + 4} = \sqrt{13}$
 $P = \sqrt{58} + \sqrt{13} + 5 = 16.2213$

Meet 4 - Event C 2000-2001

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

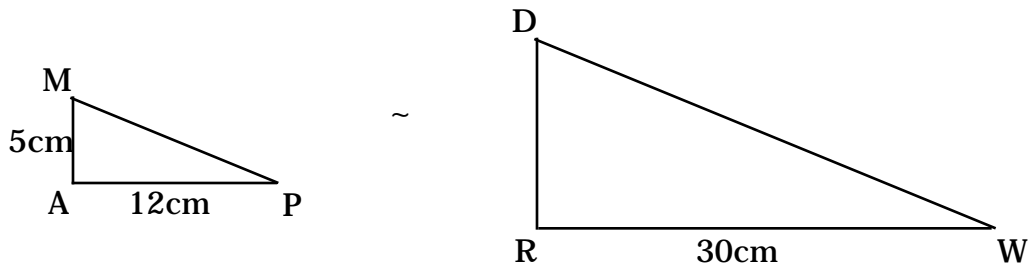


- _____ 1. Which is correct:
- A. $\sqrt{a^2 + b^2} = a + b$
 - B. $\sqrt{(a + b)^2} = a + b$
 - C. Both A and B

- _____ 2. If the sides of a square are increased by 10%, by what percent is the area increased?

- _____ 3. Simplify: $\sqrt{12xy^2}$ if $x, y > 0$

- _____ 4. Right $\triangle MAP \sim \triangle DRW$. If $MA=5\text{cm}$, $AP=12\text{cm}$, and $RW=30\text{cm}$, find DW



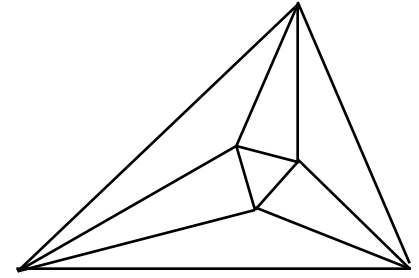
- _____ 5. The canvas roof of an 8-sided screen enclosure was made up of 8 equal triangles. Each triangle has two sides of 4 feet and one side of 3 feet. How much canvas was needed for the roof, to the nearest tenth, ignoring sewing seams?

Name _____ School _____

Meet 4- Event C 2000-2001

Answers

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



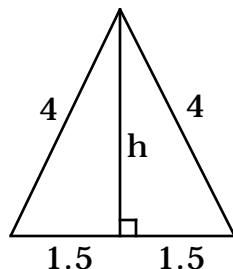
 B 1. Let $a=3$ and $b=4$ to check:
A. $\sqrt{3^2 + 4^2} = \sqrt{25} = 5 \neq 3 + 4$
B. $\sqrt{(3+4)^2} = \sqrt{49} = 7 = 3 + 4$

 21% 2. $(1.1x)^2 = 1.21x^2 = A \quad \therefore 21\%$
or let $x=10 \quad A=100; \quad x=11 \quad A=121; \quad \text{increase of } 21$

 $2y\sqrt{3x}$ 3. $\sqrt{4 \cdot 3 \cdot x \cdot y^2} = 2 \cdot y \sqrt{3 \cdot x} = 2y\sqrt{3x}$

 5.2cm 4. $MP = \sqrt{5^2 + 12^2} = \sqrt{169} = 13$
 $\frac{12}{30} = \frac{DW}{13} \quad DW = \frac{12 \times 13}{30} = 5.2$

 44.5 ft^2 5.



$$h = \sqrt{4^2 - 1.5^2} = \sqrt{13.75} = 3.71$$

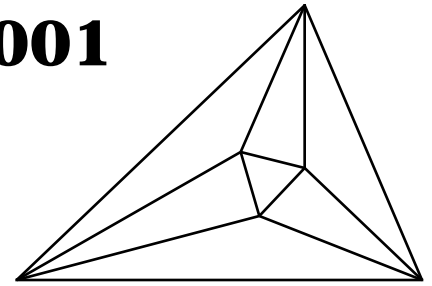
$$A = \frac{1}{2}(3)(3.71) = 5.56$$

$$8 \times 5.56 = 44.52$$

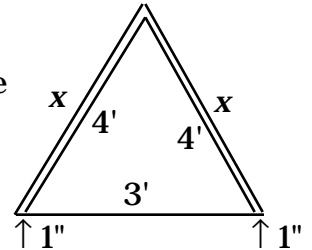
$$\text{or } 8(0.5)(3)\sqrt{13.75} = 44.49$$

Meet 4 - Team Event 2000-2001

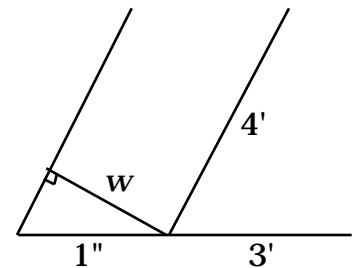
Questions are worth 4 points each.
Remember your units.



- _____ 1. A canvas triangle with sides of 3 feet 4 feet and 4 feet has 1 inch added to each end of the 3 foot base to leave room for making a seam. Find x , to the nearest inch.



- _____ 2. In problem 1, how wide is the border, w , to the nearest tenth of an inch?



- _____ 3. John lives 3 miles north of town and Marc lives 4 miles east of town. John runs directly cross-country to Marc's house at 6 miles per hour. Marc leaves John's house at the same time and rides his bicycle on the roads through town at 12 miles per hour. How long does Marc have to wait at his house for John to arrive?

- _____ 4. From moon rise on the 20th to moon set on the 22nd, what is the total amount of time the moon was above the horizon?

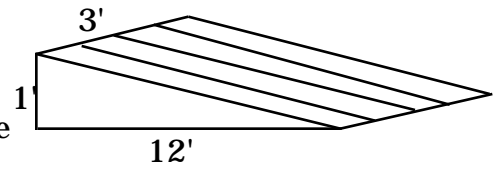
<u>Date</u>	<u>Rise</u>	<u>Set</u>
20	23:20	10:41
21		12:03
22	01:21	15:51
23	02:35	17:02

- _____ 5. Simplify $\sqrt{11700}$

- _____ 6. In metal working, Eddie needed to keep the length of a rod, L , within $1/4$ inch of 18 inches. This means that it must not be more than $1/4$ in away from 18 inches. Without using an absolute value, write an inequality for the allowed length of the rod.

- _____ 7. Write an absolute value inequality for problem 6.

- _____ 8. Bruce made a wooden ramp for his wife. The ramp is 1 foot high, 12 feet long, and 3 feet wide. He used boards that are 6 inches wide to make the ramp. What is the total length of 6 inch wide boards needed for the top surface of the ramp?



- _____ 9. The radius of a metal rod is 1 inch and the length is 10 inches. What is the total surface area of the rod, to 2 decimal places?

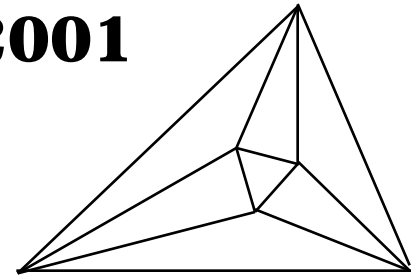
- _____ 10. If the sides of a square are increased by 10%, by what percent is the area increased?

Meet 4 - Team Event

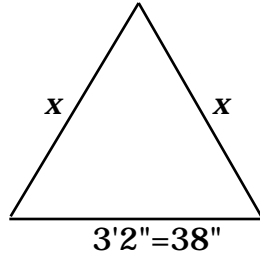
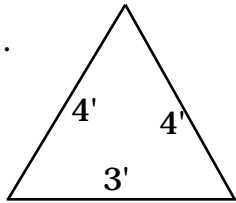
2000-2001

Answers

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

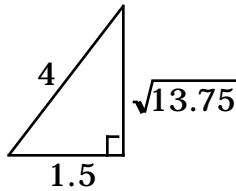
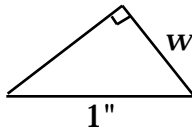


51" 1.
 or 4'3"



$$\frac{3}{4} = \frac{38}{x} \quad x = 50.\bar{6}$$

0.9 in 2.



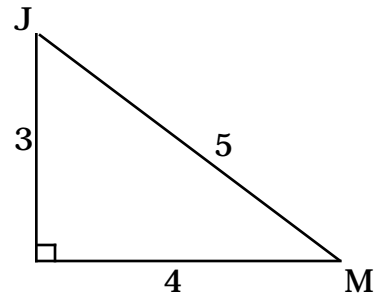
$$\frac{w}{\sqrt{13.75}} = \frac{1}{4} \quad w = 0.927 = 0.9$$

15 min 3.

Cross-country is $\sqrt{3^2 + 4^2} = \sqrt{25} = 5$ miles

John: $\frac{5\text{mi}}{6\text{mph}} = \frac{5}{6}\text{hr} = 50\text{ min}$

Marc: $\frac{3 + 4\text{mi}}{12\text{mph}} = \frac{7}{12}\text{hr} = 35\text{ min}$



27:13 4. The moon rose at 40 minutes before midnight and set at 12:03, so it was or 27 hrs 13 min up 12 hrs 43 min. Then it rose at 1:21 and set later that day at 15:51, so it was up 14 hrs 30 min. Total: 12:43+14:30=26:73=27:13

30sqrt(13) 5. $\sqrt{11700} = \sqrt{4 \cdot 9 \cdot 25 \cdot 13} = 2 \cdot 3 \cdot 5 \sqrt{13} = 30\sqrt{13}$

17.75 ≤ L ≤ 18.25 6. 18-0.25=17.75 18+0.25=18.25

$|L - 18| \leq \frac{1}{4}$ 7. The difference between the rod length and 18 must be less than or equal to or $|L - 18| \leq 0.25$ 0.25 inch.

72' 3" 8. $B = \sqrt{1^2 + 12^2} = \sqrt{145} = 12.04159$
 $\frac{36''}{6''} = 6$ boards
 $6 \times 12.04159 = 72.249 = 72' 3''$

69.12 in² 9. Ends: $\pi \cdot 1^2 + \pi \cdot 1^2 = 2\pi$
Side: $2\pi(1)10 = 20\pi$

21% 10. Total: $22\pi = 69.12 \text{ in}^2$
 $s = 1.1x$ $A = (1.1x)^2 = (1.1)^2 x^2 = 1.21x^2 \therefore 21\% \text{ increase}$