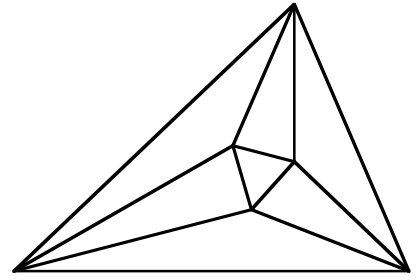


Meet 5 - Event A 2006-2007

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



_____ 1. What number can be added to this list of data without changing the mean value?

4, 4, 4, 5, 8

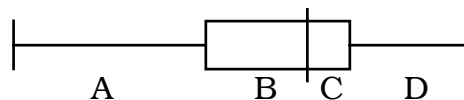
_____ 2. What number, already in this list, can be added to the list without changing the mode?

2, 3, 3, 4, 5, 7, 9

_____ 3. Maggie glances at a clock face with the numbers 1 to 12. What is the probability the second hand is pointing at one of the numbers, as a quotient of relatively prime numbers?

_____ 4. The face of a cube has an area of 36 cm^2 . What is the volume of the cube?

_____ 5. If a histogram was made from the data represented by this box and whisker plot, in which section would you expect to find the peak (highest bar), A, B, C, or D?

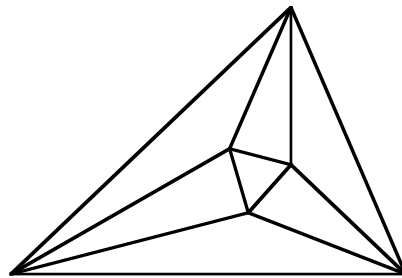


Name _____ School _____

Meet 5 - Event A 2006-2007

Answers

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



5 1. $\frac{4+4+4+5+8}{5} = \frac{25}{5} = 5$, so add another 5

3 2. The mode is 3. Adding any other number already in the list will make the list bimodal

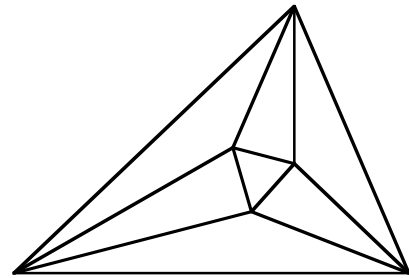
$\frac{1}{5}$ 3. There are 60 seconds in a minute, and for 12 of those seconds the second hand is pointing at a number, so $\frac{12}{60} = \frac{1}{5}$.

216 cm^3 4. $\sqrt{36} = 6$, so one side is 6 cm. $V = 6^3 = 216 \text{ cm}^3$.

C 5. Since $1/4$ of the data is in each section, the data is most condensed in section C. It is possible for the peak to be elsewhere, but not usual.

Meet 5 - Event B 2006-2007

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



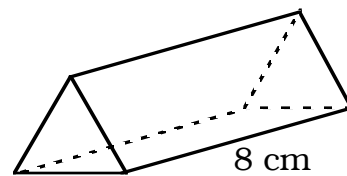
_____ 1. Write as a trinomial in decreasing order: $(x + 2)(3x - 4)$.

_____ 2. Which digit is in the wrong place in this stem and leaf plot?

10		0	0
9		8	9
9		1	1 2 3
8		5	6 7
8		0	0 3 3 3
7		4	

_____ 3. The area of circle A is $25\pi \text{ cm}^2$ and the area of circle B is $49\pi \text{ cm}^2$. What is the ratio of the diameter of circle A to the radius of circle B?

_____ 4. A glass prism is an equilateral triangle on one end and is 8 cm long. The perimeter of the triangle is 6 cm. What is the volume of the prism, exactly?

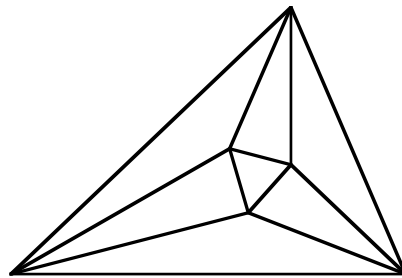


_____ 5. Write in sigma notation: $2 + 8 + 18 + 32 + 50$.

Meet 5 - Event B 2006-2007

Answers

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



$3x^2 + 2x - 8$ 1. $3x^2 - 4x + 6x - 8 = 3x^2 + 2x - 8$

4 2. The correct plot is:

10	0 0
9	8 9
9	1 1 2 3
8	5 6 7
8	0 0 3 3 3
7	
7	4

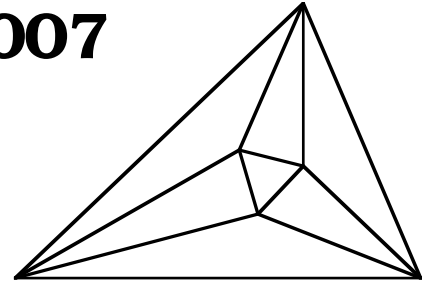
$\frac{10}{7}$ 3. $A = \pi r^2$, so $r = 5$ cm for A and $d = 10$ cm. $r = 7$ cm for B. $\frac{d_A}{r_B} = \frac{10 \text{ cm}}{7 \text{ cm}}$
or 10 to 7
or 10:7

$8\sqrt{3} \text{ cm}^3$ 4. Side of triangle = $\frac{6 \text{ cm}}{3} = 2$ cm. $A = \frac{2^2 \sqrt{3}}{4} = \sqrt{3} \text{ cm}^2$. $V = \sqrt{3} \cdot 8 = 8\sqrt{3} \text{ cm}^3$

$\sum_{k=1}^5 2k^2$ 5. $2(1)^2 + 2(2)^2 + 2(3)^2 + 2(4)^2 + 2(5)^2$

Meet 5 - Team Event 2006-2007

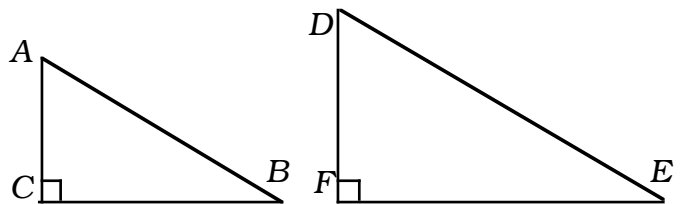
Questions are worth 4 points each.
Remember your units.



_____ 1. If the surface area of a cube is 30 cm^2 , what is the volume, exactly, and in simplified form?

_____ 2. Simplify: $\sqrt{2205}$

_____ 3. Right triangle ABC is similar to triangle DEF . If $AB=6$ cm, $AC=4$ cm, and $DF=10$ cm, find the length of FE to the nearest tenth.



_____ 4. If the volume of a rectangular prism is 960 in^3 , and two edges are 8 in. and 10 in. long, how long is the third edge?

_____ 5. Simplify to one number: $\sum_{k=0}^4 3^k$

_____ 6. A 12 oz can of tuna measures 4" in diameter and 2" high. A 6 oz can of tuna is $1 \frac{1}{2}$ " high. What is the diameter of the smaller can, to the nearest $\frac{1}{8}$ "?

_____ 7. Jose bought 3 raffle tickets to win a new bike. Seventy-five tickets were sold. When the one winning ticket was drawn, what was the probability that Jose won the bike?

_____ 8. Michael makes his free-throw shots 20% of the time. What is the probability that he makes the first shot and misses the second shot when given two shots at the basket?

_____ $\frac{\text{oz}}{\text{in}^3}$ 9. A ruler is 12 in. long, 1 in. wide and $\frac{1}{8}$ in. thick. It weighs $\frac{11}{20}$ of an oz. What is the density of the wood in ounces per cubic inch, to the nearest hundredth?

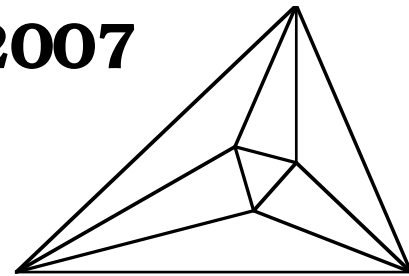
_____ 10. Simplify: $3x(x-3) - 4(x+2) + 5x^2$

Meet 5 - Team Event

2006-2007

Answers

Questions are worth 4 points each.
Remember your units.



5√5 cm³ 1. $\frac{30 \text{ cm}^2}{6} = 5 \text{ cm}^2$, so one edge is $\sqrt{5}$ cm. $(\sqrt{5} \text{ cm})^3 = 5\sqrt{5} \text{ cm}^3$

21√5 2. $\sqrt{2205} = \sqrt{5 \cdot 9 \cdot 49} = 3 \cdot 7 \sqrt{5} = 21\sqrt{5}$

11.2 cm 3. $BC = \sqrt{6^2 - 4^2} = 4.47$, $\frac{4}{10} = \frac{4.47}{FE}$, $FE = 11.18$

12 in 4. $8 \times 10 = 80$, $\frac{960}{80} = 12$

121 5. $3^0 + 3^1 + 3^2 + 3^3 + 3^4 = 1 + 3 + 9 + 27 + 81 = 121$

3 $\frac{1}{4}$ " 6. 12 oz:6 oz tells us there is twice as much tuna in the larger can, or twice the volume of tuna. $V_{12\text{oz}} = \pi(2)^2(2) = 8\pi \text{ in}^3$ $V_{6\text{oz}} = 4\pi = \pi r^2(1.5)$ so $r^2 = 2.\bar{6}$, $r = 1.633$ $d = 3.266$ or $3 \frac{1}{4}$ "

$\frac{1}{25}$ or 0.04 7. $\frac{3}{75} = \frac{1}{25}$

0.16 or $\frac{4}{25}$ 8. 20% make, 80% miss, so $\frac{20}{100} \times \frac{80}{100} = \frac{1600}{10000} = 0.16$

0.37 $\frac{\text{oz}}{\text{in}^3}$ 9. $\frac{\frac{11}{20} \text{ oz}}{1.5 \text{ in}^3} = \frac{0.55}{1.5} = 0.3\bar{6}$

$8x^2 - 13x - 8$ 10. $3x^2 - 9x - 4x - 8 + 5x^2 = 8x^2 - 13x - 8$