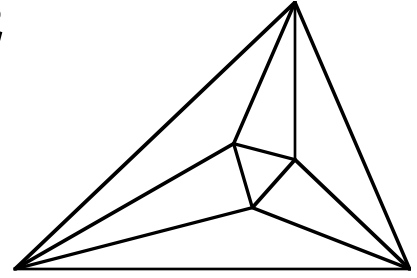


Meet 5 - Event A 2011-2012

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



NO CALCULATORS ALLOWED

_____ 1. What is the y -intercept of $5x - 3y = 15$?

a _____ 2. Given: 40, 35, 7, 40, 21, 18, 27.

a. What is the mode?

b _____ b. What is the median

_____ 3. In this stem-and-leaf plot of quiz scores, which score is misplaced?

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

_____ 4. If the mean, median, mode, and range of a set of data are 45, 45, 41, and 9 respectively, and you add 75 to the data list, which will change the most: mean, median, or mode?

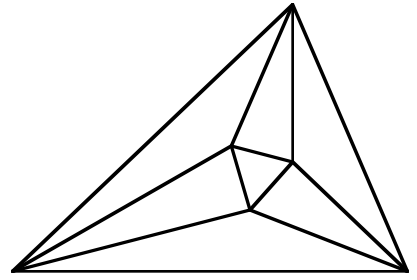
_____ 5. What is the intersection of $y = 3x + 4$ and $y = x - 2$?

Name _____ School _____

Meet 5 - Event A 2011-2012

Answers

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



-5 1. $x = 0$, so $-3y = 15$, $y = -5$
or $(0, -5)$

a 40 2. Reordered: 7,18,21,27,35,40,40. a. mode=most=40, b. median=middle=27

b 27
(1 pt each)

35 3. The stem leaves are 0, 1, 2, 3, 4 or 5, 6, 7, 8, 9 in order to have five values for each stem number, so the 5 belongs with the 7 7 8 9 leaves

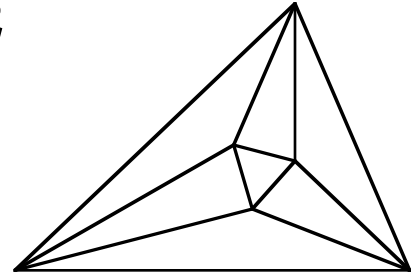
mean 4. $41+9=50$, so 75 is outside the range of the rest of the data, so it will not create a new mode. The median could shift up slightly, but the mean will change more.

$(-3, -5)$ 5. $3x + 4 = x - 2$, $2x + 4 = -2$, $2x = -6$, $x = -3$ so $y = -3 - 2 = -5$

Meet 5 - Event B 2011-2012

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

NO CALCULATORS ALLOWED



_____ 1. Simplify: $\sqrt{4900}$

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

_____ 3. Simplify: $\frac{x^2-4}{x+2}$

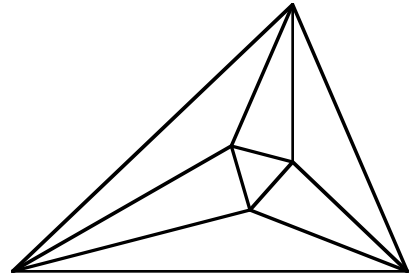
_____ 4. If the volume of a sphere is $\frac{32\pi}{3} \text{ cm}^3$, what is the diameter?

_____ units 5. For what edge length is the surface area of a cube numerically equal to its volume?

Meet 5 - Event B 2011-2012

Answers

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



70 1. $\sqrt{4900} = \sqrt{49 \cdot 100} = 7 \cdot 10 = 70$

$3x^2 - x - 4$ 2. $(x+1)(3x-4) = 3x^2 - 4x + 3x - 4 = 3x^2 - x - 4$

$x - 2$ 3. $\frac{x^2 - 4}{x + 2} = \frac{\cancel{(x+2)}(x-2)}{\cancel{(x+2)}} = (x-2)$

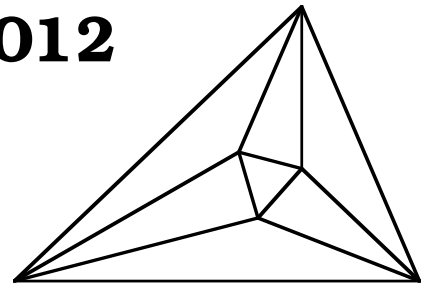
4cm 4. $\frac{4}{3}\pi r^3 = \frac{32}{3}\pi = \frac{4}{3}\pi 8 = \frac{4}{3}\pi 2^3$ so $r = 2\text{cm}$, $d = 4\text{cm}$
(-1 if no units)

6 units 5. $6x^2 = x^3$ when $x = 6$

Meet 5 - Team Event 2011-2012

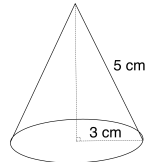
Questions are worth 4 points each.
Remember your units.

NO CALCULATORS ALLOWED



_____ 1. If the area of one face of a rectangular prism is 24 cm^2 and the volume is 240 cm^3 and the edges are all integer lengths, what are four possibilities for the three edge lengths, in centimeters?

_____ 2. If a cone has a radius of 3 cm and a slant height of 5 cm, what is the volume in terms of π ?

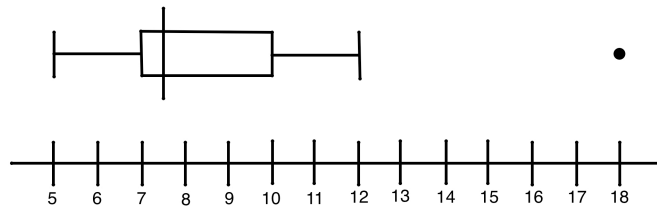


_____ 3. What is the equation of a line through (3, 4) and perpendicular to $y = \frac{1}{3}x - 2$?

_____ 4. What is the intersection of $3x - 2y = 1$ and $3x + 4y = 13$?

a _____ 5. For this box and whisker plot: a. what is the interquartile range? b. the outlier?

b _____



_____ 6. In the plot in question 5, is 7.5 the mean, median, or mode?

_____ 7. In the plot in question 5, which values must be data values?

_____ % 8. If the edge of a cube is increased by 6%, by what percent is the volume increased, to the nearest tenth?

_____ 9. A cone of diameter 16 inches and a height of 12 inches was cut off 6 inches high and the top cone removed. What is the volume of the part left (the frustum), in terms of π

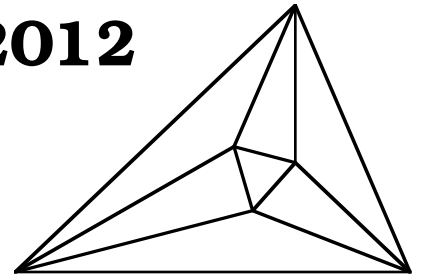
_____ 10. Marcus made the basket 16 times and missed the basket 9 times in the basketball game. What is the probability that he will make the basket on his next try?

Meet 5 - Team Event

2011-2012

Answers

Questions are worth 4 points each.
Remember your units.



- 1, 24, 10 1. Use factor pairs of 24, and 10. In any order. One point each.
2, 12, 10
3, 8, 10
4, 6, 10

$12\pi \text{ cm}^3$ 2. The height is $\sqrt{5^2 - 3^2} = 4\text{cm}$ $V = \frac{1}{3}\pi r^2 h = \frac{1}{3}\pi 3^2 4 = 12\pi \text{ cm}^3$

$y = -3x + 13$ 3. Slope = -3 , so $4 = -3 \cdot 3 + b$, $b = 13$.

$\left(\frac{5}{3}, 2\right)$ 4. $3x - 2y = 1$ minus $3x + 4y = 13$ is $-6y = -12$, $y = 2$, $3x - 2(2) = 1$, $3x = 5$, $x = \frac{5}{3}$
or $\left(1\frac{2}{3}, 2\right)$

a 3 5. a. $10 - 7 = 3$ b. 18

b 18 (2 points each)

median 6. 7.5 is the median or 50% mark. It might also be the mean and mode, but it must be the median.

5, 12, 18 7. Data values determine the outlier and range endpoints. The 7, 7.5, and 10 could be averages of two data points and not actually data themselves.

19.1% 8. $1.06 \times 1.06 \times 1.06 = 1.191016$ or an increase of 19.1016%

$224\pi \text{ in}^3$ 9. $V = \frac{1}{3}\pi r^2 h = \frac{1}{3}\pi \cdot 8^2 \cdot 12 = 256\pi$ It is cut half way up, so the radius is half (similar shapes), so $r = 4$ for the removed cone. $V = \frac{1}{3}\pi \cdot 4^2 \cdot 6 = 32\pi$
Frustum = $256\pi - 32\pi = 224\pi \text{ in}^3$

0.64 10. $16 + 9 = 25$ shots at the basket. Probability is $\frac{16}{25} = \frac{64}{100} = 0.64$
or 64%