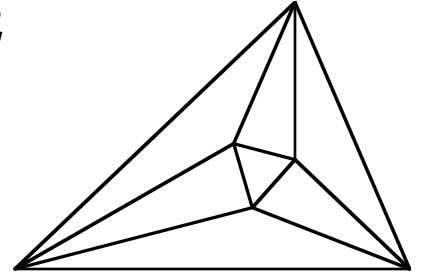


Meet 3 - Event A 2011-2012

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

NO CALCULATORS ALLOWED



_____ 1. Solve for x : $\frac{3}{7} = \frac{18}{x}$

_____ % 2. Of the 80 trick-or-treaters that came to my home, only two were dressed as pirates. What percentage were pirates?

_____ 3. The number of bees in a hive increased by 2000% in three months. The larger hive is how many times as large as the original hive?

_____ 4. A recipe for orange aide calls for 3 cups of orange liquid concentrate to 5 cups of water. How much orange concentrate would you need to make 120 cups of orange aide?

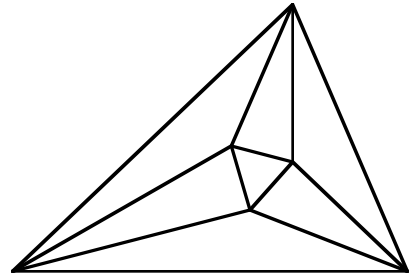
_____ 5. Each side of a four sided polygon differs in length from the adjacent sides by 1 cm. If the shortest side is 2 cm, what are two possible perimeters?

Name _____ School _____

Meet 3 - Event A 2011-2012

Answers

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



42 1. $\frac{3}{7} = \frac{18}{x}$, $3x = 7 \cdot 18$, $x = \frac{7 \cdot \cancel{18}^6}{\cancel{x}^1} = 42$ OR Since $3 \cdot 6 = 18$, $7 \cdot 6 = 42$

2.5% 2.
$$\begin{array}{r} .025 \\ 80 \overline{) 2.000} \\ \underline{160} \\ 400 \\ \underline{400} \end{array} \quad 0.025 \times 100 = 2.5\%$$

21 3. The hive increased by $\frac{2000}{100} = 20$. Plus 1 for the original size.

45 cups 4. $3 + 5 = 8$ cups total in recipe. $\frac{3}{8} = \frac{x}{120}$, $\frac{\cancel{8}x}{\cancel{8}} = \frac{3 \cdot \cancel{120}^{15}}{\cancel{8}} = 45$ cups
(-1 if no units)

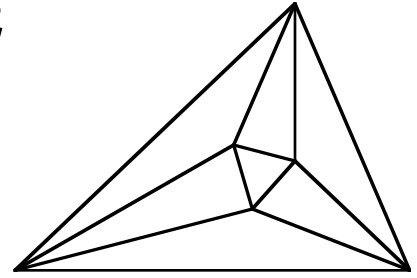
10 cm 5. $2+1=3$, so three sides are 3 cm, 2 cm, 3 cm. The fourth side could be 2 cm or 4 cm. So $P = 3+2+3+2 = 10$ cm or $P = 3+2+3+4 = 12$ cm

12 cm
(2 points each)
(-1 if no units)

Meet 3 - Event B 2011-2012

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

NO CALCULATORS ALLOWED

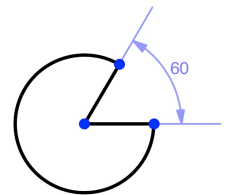


_____ 1. If the radius of a circle is exactly $\frac{5}{\pi}$ cm, what is the circumference?

_____ 2. If Nancy drove 150 miles in 3 hours what was her average speed?

_____ 3. Write in standard form of $Ax + By + C = 0$ where A , B , and C are relatively prime integers: $y = \frac{2}{3}x + \frac{5}{6}$.

_____ 4. An early video game used a PacMan, a circle with a "mouth" of 60° . If the radius of the circle is 1 inch, what is the perimeter of the PacMan, exactly?

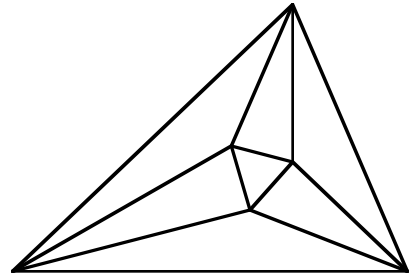


_____ 5. Profit is how much money you actually end up with. The student council sold tickets to the dance for \$8 each. They had to pay the DJ \$200 to play the music. Write an equation for the profit, P , in terms of the number of tickets sold, t .

Meet 3 - Event B 2011-2012

Answers

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



$$\frac{10 \text{ cm}}{(-1 \text{ if no units})} \quad 1. \quad C = 2\pi r = 2\cancel{\pi} \cdot \frac{5}{\cancel{\pi}} = 10 \text{ cm}$$

$$\frac{50 \text{ mph}}{(-1 \text{ if no units})} \quad 2. \quad \frac{150 \text{ miles}}{3 \text{ hours}} = 50 \text{ mph or } 50 \text{ miles/hour}$$

$$\frac{4x - 6y + 5 = 0}{\text{Or } -4x + 6y - 5 = 0} \quad 3. \quad \text{Multiply the equation by 6: } 6y = 4x + 5, 0 = 4x - 6y + 5$$

$$\left(\frac{5\pi}{3} + 2\right) \text{ in.} \quad 4. \quad \frac{60}{360} = \frac{1}{6}, \text{ so } \frac{5}{6} \text{ or the circumference is used. } \frac{5}{6} \cdot 2\pi \cdot 1 = \frac{5\pi}{3} \text{ inches of curve.}$$

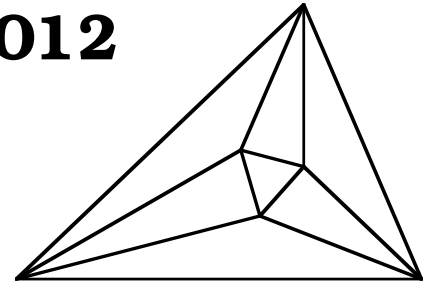
or $\frac{5\pi}{3} + 2$ " 2 inches in straight lines. $P = \left(\frac{5\pi}{3} + 2\right)$ inches

-1 if no units or $\frac{5\pi}{3} + 2$ "

$$\underline{P = 8t - 200} \quad 5. \quad \text{Income} = 8t, \text{ Expense} = 200, P = 8t - 200$$

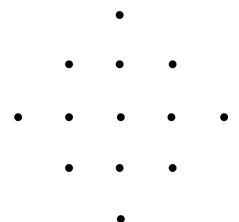
Meet 3 - Team Event 2011-2012

Questions are worth 4 points each.
Remember your units.



NO CALCULATORS ALLOWED

- _____ 1. What is the one's digit in the value of 4^{50} ?
- _____ 2. If c is a prime digit, what are all eight factors of ccc ?
- _____ 3. Find all values of x that satisfy: $|2x + 1| = |x - 3|$.
- _____ 4. Find all values of x that satisfy: $|2x + 1| = x - 3$.
- _____ 5. Find all values of x that satisfy: $2x + 1 = |x - 3|$.
- _____ 6. Solve for y : $16 - 2(y - x) = 4(x + 1)$.
- _____ 7. Yia wanted to be at her cousin's house by 4:00 pm. Her cousin lived 202 miles away, so she left her house at noon, driving 65 miles per hour. At 2:00 pm she stopped for for 30 minutes for gas and a snack. How fast must she drive for the rest of the trip to reach her cousin's house by 4:00 pm?
- _____ % 8. A sale item was discounted by 25%. Two weeks later it was marked down 20%. What percent was the total discount?
- _____ 9. What is the largest amount of change you can have and still not be able to make change for a dollar?
- _____ 10. How many squares can be drawn using these dots as vertices?

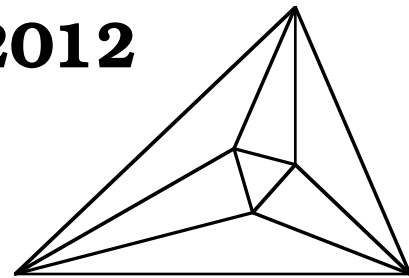


Meet 3 - Team Event

2011-2012

Answers

Questions are worth 4 points each.
Remember your units.



6 1. $4^1, 4^2, 4^3, 4^4, 4^5 = 4, 16, 64, 256, 1024$ so you can see 4 and 6 alternate with 6 the only digit for even exponents. (See Meet, Team Event 4, 2011-12)

1,c,3,37,3c,111,37c,ccc 2. $ccc = c(111) = c \cdot 3 \cdot 37$ so 1,c,3,37,3c,111,37c, and ccc
 (In any order)

$-4, \frac{2}{3}$ 3. $2x+1 = x-3, x+1 = -3, x = -4$ and $2x+1 = -x+3, 3x+1 = 3, 3x = 2, x = \frac{2}{3}$.
 (Either order)

None 4. Check the two values found in question 3.

$$|2(-4)+1| = -4-3, |-7| = -7 \text{ not possible} \quad \left|2\left(\frac{2}{3}\right)+1\right| = -\frac{2}{3}-3, \left|\frac{7}{3}\right| = -\frac{7}{3} \text{ not possible}$$

$\frac{2}{3}$ 5. Check the two values found in question 3.

$y = -x + 6$ 6. $16 - 2y + 2x = 4x + 4, -2y = 2x - 12, y = -x + 6$

48 mph 7. From noon to 2:00 is 2 hrs. $65\text{mph} \times 2 = 130\text{miles}$. $202 - 130 = 72$ miles left,
 2:30 to 4:00 is 1.5 hrs $\frac{72}{1.5} = 48\text{mph}$

40% 8. If the original price is p , then $0.80(0.75p) = 0.60p, 1 - 0.60 = 0.40$ or 40%
 OR $0.25 + 0.2(0.75) = 0.25 + 0.15 = 0.40$

\$1.19 9. 3 quarters (4 makes change), 4 dimes ($2q+5d$ makes change) 4 pennies
 ($3q+2d+5p$ makes change)

11 10.

