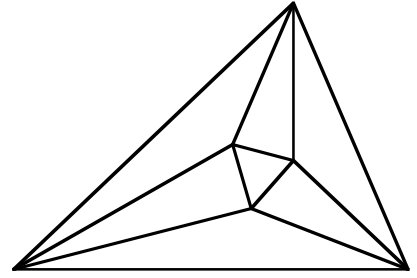


# Meet 3 - Event A 2010-2011

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

**NO CALCULATORS ALLOWED**



\_\_\_\_\_ 1. Solve for  $x$ :  $\frac{2x}{5} = \frac{36}{30}$

\_\_\_\_\_ 2. If the circumference of a circle is  $9\pi$  cm, what is the radius?

\_\_\_\_\_ 3. Write 140% as a ratio of two relatively prime numbers.

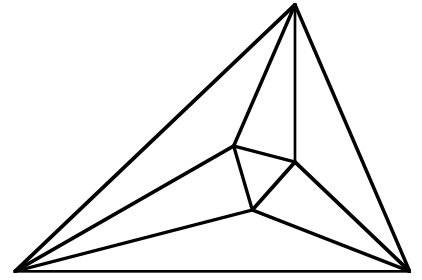
\_\_\_\_\_ 4. Nancy earned \$60.00 for five hours of work. Write an equation for her earnings,  $E$ , in terms of her hours worked,  $h$ .

\_\_\_\_\_ 5. Nancy didn't receive all \$60 for her work because 10% was taken out for taxes, 6.2% was taken out for FICA and 1.45% was taken out for Medicare. How much money did she actually receive?

# Meet 3 - Event A 2010-2011

## Answers

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



3 1.  $2x(30) = 5(36)$ ,  $\frac{60x}{60} = \frac{180}{60}$ ,  $x = 3$

4.5 cm 2.  $C = \pi d$  so  $d = 9$ ,  $r = \frac{d}{2} = \frac{9}{2} = 4.5$   
or  $4\frac{1}{2}$  cm

$\frac{7}{5}$  3.  $140\% = \frac{140}{100} = \frac{7}{5}$

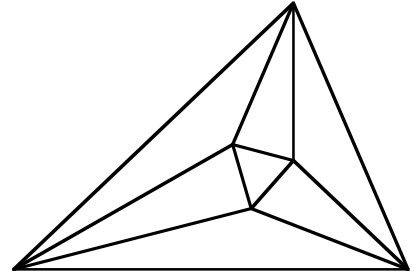
$E = 12h$  4.  $\frac{\$60}{5} = \$12 / \text{hour}$ ,  $E = 12h$

\$49.41 5.  $10\% + 6.2\% + 1.45\% = 17.65\%$ ,  $100 - 17.65 = 82.35\%$  received,  $60 \times 0.8235 = \$49.41$

# Meet 3 - Event B 2010-2011

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

**NO CALCULATORS ALLOWED**

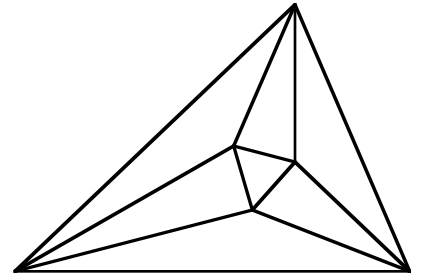


- \_\_\_\_\_ 1. Driving at 60 miles per hour , it takes Jason 1 hour 15 minutes to get to Grandma's house. How far did he drive?
- \_\_\_\_\_ 2. What is 80% of 20?
- \_\_\_\_\_ 3. If the scale on a map is 1 inch=8 miles, how long would 27 miles be on the map?
- \_\_\_\_\_ 4. Solve for  $y$  in terms of  $x$ :  $\frac{x}{3} - \frac{y}{4} = 1$ .
- \_\_\_\_\_ 5. Marco bought a used car for \$400 down (paid right away) and \$50 per month. Write an equation for how much he has paid,  $p$ , after  $m$  months.

# Meet 3 - Event B 2010-2011

## Answers

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



$$\underline{75 \text{ miles}} \quad 1. \quad 1 \text{ hr } 15 \text{ min} = 1\frac{1}{4} \text{ hr} = \frac{5}{4} \text{ hours}, \quad 60 \times \frac{5}{4} = 75 \text{ miles}$$

$$\underline{16} \quad 2. \quad 0.80 \times 20 = 16$$

$$\underline{3\frac{3}{8} \text{ inches}} \quad 3. \quad \frac{1 \text{ in}}{x \text{ in}} = \frac{8 \text{ miles}}{27 \text{ miles}}, \quad \frac{\cancel{x}}{\cancel{x}} = \frac{27}{8}, \quad x = 3\frac{3}{8} \text{ inches}$$

$$\underline{y = \frac{4}{3}x - 4} \quad 4. \quad 12\left(\frac{x}{3} - \frac{y}{4}\right) = 12(1), \quad 4x - 3y = 12, \quad 4x - 12 = 3y, \quad y = \frac{4}{3}x - \frac{12}{3} = \frac{4}{3}x - 4$$

or  $y = -4 + \frac{4}{3}x$

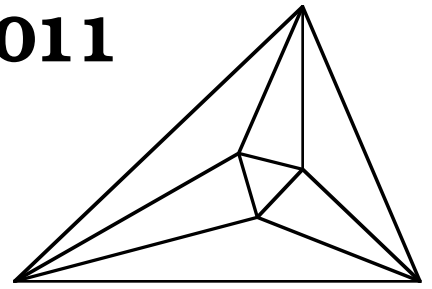
$$\underline{p = 50m + 400} \quad 5.$$

or  $p = 400 + 50m$

# Meet 3 - Team Event 2010-2011

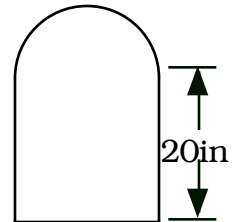
Questions are worth 4 points each.  
Remember your units.

## NO CALCULATORS ALLOWED

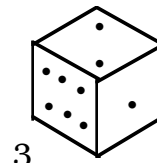
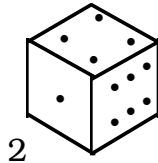
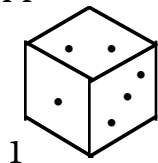


- \_\_\_\_\_ 1. Mario is planning a trip to Chicago. His destination is 450 miles from his house. If he can average 50 miles per hour, how long will his trip take?
- \_\_\_\_\_ 2. For half an hour, Carl drove at 70 miles per hour, then he slowed down to 60 miles per hour for the next hour and twenty minutes. How far did he drive?

- \_\_\_\_\_ 3. A 16 in. by 20 in. rectangular window has a semicircle on one of the shorter ends. What is the perimeter in terms of  $\pi$ ?



- \_\_\_\_\_ 4. The figure shows three views of the same cube. How many dots are on the face opposite the face with four dots?



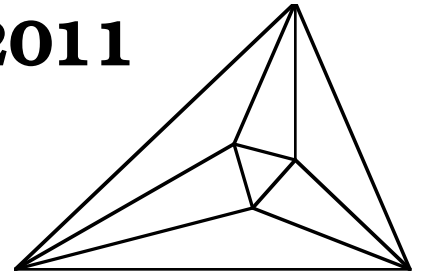
- \_\_\_\_\_ 5. You want to learn to swim. It costs \$50 to join the swim association and \$5 for each lesson. Write an equation for the cost,  $C$ , of learning to swim in  $n$  lessons.
- \_\_\_\_\_ 6. A tutor charges \$45 for a first lesson and \$30 per lesson after that. Write an equation for the cost,  $C$ , in terms of the lessons,  $n$ .
- \_\_\_\_\_ 7. Solve for  $y$ :  $4x + 2y - 7 = 5(y - 1) + 3$
- \_\_\_\_\_ 8. Sarah spent \$36.00 on a dinner, including a 20% tip. How much did just the dinner cost?
- \_\_\_\_\_ 9. Solve for  $x$ :  $\frac{x + 2}{5} = \frac{x - 5}{3}$
- \_\_\_\_\_ 10. A map scale is 3 cm = 5 miles. On the map, the distance between Your Town and My Town is 7.5 cm. How far is Your Town from My Town in miles.

# Meet 3 - Team Event

# 2010-2011

## Answers

Questions are worth 4 points each.  
Remember your units.



9 hours 1.  $\frac{450}{50} = 9$  hours

115 miles 2.  $70 \times \frac{1}{2} + 60 \times 1 \frac{1}{3} = 70 \times \frac{1}{2} + 60 \times \frac{4}{3} = 35 + 80 = 115$  miles.

$(56 + 8\pi)$  in 3.  $P = 20 + 16 + 20 + \frac{1}{2} \cdot 16 \cdot \pi = 56 + 8\pi$

2 4. From view 1, 4 is opposite 1, 2, or 3 dots. From view 2, 4 is not opposite 1. From view 3, 3 dots are opposite 6 dots, 2 dots are opposite 4 dots.

$C = 50 + 5n$  5.  
or  $C = 5n + 50$

$C = 30n + 15$  6.  
or  $C = 45 + 30(n - 1)$

$y = \frac{4}{3}x - \frac{5}{3}$  7.  $4x + 2y - 7 = 5y - 5 + 3$ ,  $4x + 2y - 7 = 5y - 2$ ,  $4x - 7 = 3y - 2$ ,  $4x - 5 = 3y$   
or  $y = \frac{4x - 5}{3}$   $y = \frac{4x - 5}{3} = \frac{4}{3}x - \frac{5}{3}$

\$30 8.  $\frac{1.2x}{1.2} = \frac{36}{1.2} = 30$

$15 \frac{1}{2}$  9.  $3(x + 2) = 5(x - 5)$ ,  $3x + 6 = 5x - 25$ ,  $6 = 2x - 25$ ,  $31 = 2x$ ,  $x = 15 \frac{1}{2}$   
or 15.5 or  $\frac{31}{2}$

12.5 miles 10.  $\frac{3\text{cm}}{7.5\text{cm}} = \frac{5\text{miles}}{x \text{ miles}}$ ,  $\frac{x}{3} = \frac{7.5 \times 5}{3} = \frac{37.5}{3} = 12.5$