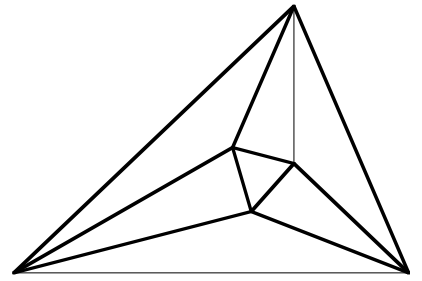


# Meet 2 – Event A 2014-2015

Questions are worth 2-2-2-4-4 points respectively.

NO CALCULATORS ALLOWED



\_\_\_\_\_ 1. Evaluate:  $|31 - 56| - 17$

\_\_\_\_\_ 2. Solve:  $\frac{2}{3}(x - 21) = 10$

\_\_\_\_\_ 3. The atomic weight of Platinum is approximately  $3.2 \times 10^{-19}$  mg. The atomic weight of Aluminum is approximately  $4.5 \times 10^{-20}$  mg. About how many times greater is the atomic weight of Platinum than that of Aluminum? *Round your answer to the nearest whole number.*

\_\_\_\_\_ 4A. Nina spent  $c$  dollars on tickets to  $g$  Timberwolves games last season. For most of the games, she sat in the Yellow section, where tickets cost \$54 per game. For 3 of the games, Nina sat in the Green section. Tickets in the Green section cost 25% more per game than tickets in the Yellow section.

\_\_\_\_\_ 4B.

**A)** Write an equation to represent Nina's total cost,  $c$ , to attend  $g$  Timberwolves games.

**B)** Nina spent a total of \$472.50 on Timberwolves tickets last season. How many games did she attend?

(see below) 5. There are two distinct data sets, each comprised of six **whole** numbers, which meet the following criteria:

- range = 8
- interquartile range = 2
- mean = median = mode

One value from each data set has been given. From least to greatest, fill in the blanks with the remaining five values in each set.

Set 1: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, 6, \_\_\_\_\_  
least greatest

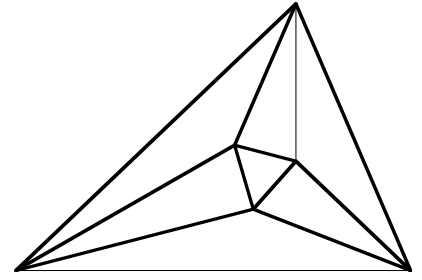
Set 2: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, 6, \_\_\_\_\_  
least greatest

Name \_\_\_\_\_ School \_\_\_\_\_

# Meet 2 – Event A 2014-2015

## ANSWERS

Questions are worth 2-2-2-4-4 points respectively.



8 1.  $|31 - 56| - 17; |-25| - 17$   
 $25 - 17 = 8$

36 2.  $\frac{2}{3}(x - 21) = 10; \frac{2}{3}x - 14 = 10$   
 $\frac{2}{3}x = 24; x = 24\left(\frac{3}{2}\right) = 36$

7 3.  $\frac{3.2 \times 10^{-19}}{4.5 \times 10^{-20}} = \left(\frac{3.2}{4.5}\right) \times 10^{-19 - (-20)} = \left(\frac{32}{45}\right) \times 10^1$   
 $32 \div 45 \approx .71$   
 $.71 \times 10^1 = 7.1 \approx 7$

$c = 54(g - 3) + 67.5(3)$  4A.  $\frac{x}{54} = \frac{25}{100}; x = 13.5; 54 + 13.5 = 67.5; 67.5(3) = 202.5$

or) ----->

8 4B.  $472.50 = 54g + 40.5$   
 \*2 points each  $432 = 54g$   
 $8 = g$

**Other correct responses for 4A:**  
 $c = 54(g - 3) + 202.5$   
 $c = 54g - 162 + 202.5$   
 $c = 54g + 40.5$

(see below) 5.



Set 1: 1, 4, 5, 5, 6, 9  
 least greatest

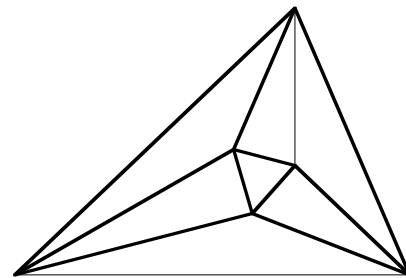
Set 2: 3, 4, 6, 6, 6, 11  
 least greatest

\*2 points for each correct set

# Meet 2 – Event B 2014-2015

Questions are worth 2-2-2-4-4 points respectively.

NO CALCULATORS ALLOWED

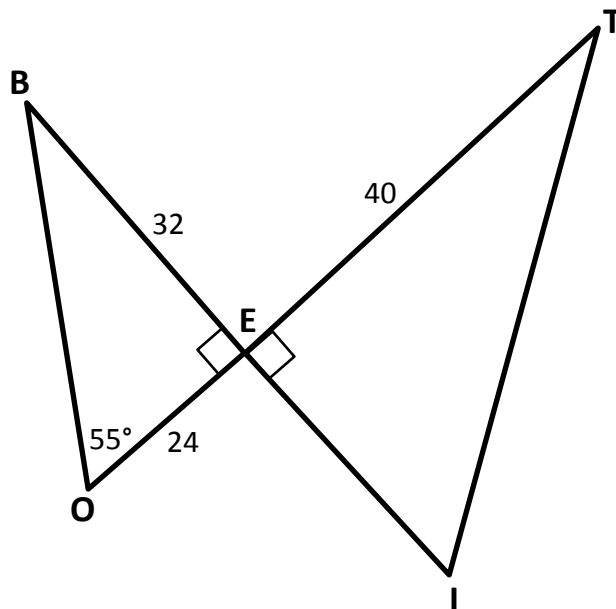


- \_\_\_\_\_ 1. Write 27 as a power that has a whole number base and a whole number exponent other than 1.

Use the diagram to answer questions 2 and 3.

In the diagram,  $\triangle BOE \sim \triangle TIE$ .

- \_\_\_\_\_ degrees 2. What is the measure of angle T?
- \_\_\_\_\_ sq. units 3. What is the area of  $\triangle TIE$ ?



Use the following information to answer questions 4 and 5.

At the beginning of the school year, Mr. Ross predicted that he would have no absent students on 1 out of every 40 days, which is  $\frac{2}{9}$  of the school year. On the last day, the attendance record indicates that Mr. Ross had no absent students on a total of 9 school days.

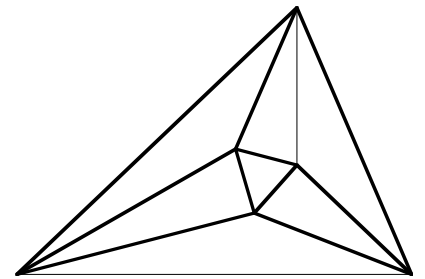
- \_\_\_\_\_ 4A. Revise Mr. Ross's prediction. Fill in the blanks with the numbers that make each statement accurate.
- \_\_\_\_\_ 4B.            **A)** "No students will be absent on \_\_\_\_\_ out of every 40 days."  
                         **B)** "No students will be absent on 1 out of every \_\_\_\_\_ days."
- \_\_\_\_\_ % 5A. By what percent should Mr. Ross have increased his prediction to be accurate?
- \_\_\_\_\_ days 5B. On how many **more** days of the school year did Mr. Ross have no absent students than what he originally predicted?

Name \_\_\_\_\_ School \_\_\_\_\_

# Meet 2 – Event B 2014-2015

## ANSWERS

Questions are worth 2-2-2-4-4 points respectively.



       $3^3$        1.

  35 degrees   2.       $55 + 90 = 145$   
 $180 - 145 = \mathbf{35}$

  600 sq. units   3.       $\frac{32}{40} = \frac{24}{x}; x = 30$   
 $\frac{1}{2}(30)(40) = \mathbf{600}$

      2       4A.       $\frac{40}{x} = \frac{2}{9}; x = 180$  school days

      20       4B.       $\frac{9}{180} = \frac{x}{40}; x = \mathbf{2}$   
\*2 points each       $\frac{9}{180} = \frac{1}{x}; x = \mathbf{20}$

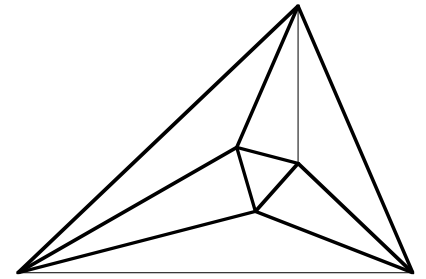
      100%       5A.       $\frac{1}{40}x = \frac{9}{180}; x = 2 = 200\%$ ; Since the actual ratio is 200% (or double) Mr. Ross's ratio, the predicted ratio should *increase* by **100%**.

      4.5 days       5B.       $\frac{1}{40} = \frac{x}{180}; x = 4.5$   
\*2 points each       $9 - 4.5 = 4.5$

# Meet 2 – Team Event 2014-2015

Questions are worth 4 points each.

NO CALCULATORS ALLOWED

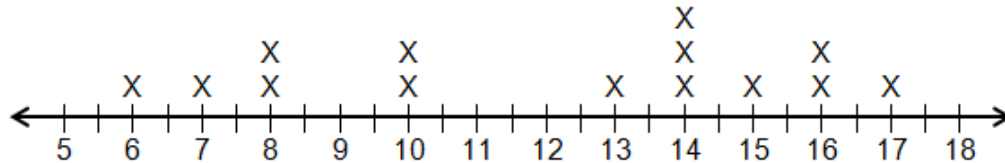


        $x =$  \_\_\_\_\_ 1. Solve:  $\frac{2(x-7)}{5} = \frac{3x}{4}$

\_\_\_\_\_ 2. On a number line, what is the midpoint of  $-|7 - 4^2|$  and  $3^3$ ?

\_\_\_\_\_ phones 3. Last year, a cell phone company sold 5.8 million phones of a certain model. This year, the company predicts a 30% increase in sales for the upgraded version of the same model. How many cell phones of the upgraded version does the company anticipate selling this year?  
Write your answer in scientific notation.

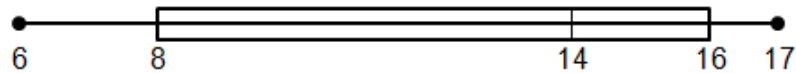
Use the line plot to answer questions 4 – 6.



\_\_\_\_\_ 4. What is the mean of the data set?

\_\_\_\_\_ 5. What is the median of the data set?

\_\_\_\_\_ 6. One whole number data point is added to the line plot. A box plot of the new data set is shown:

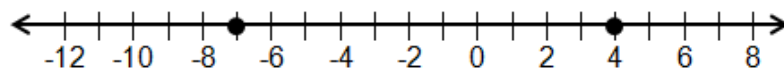


What is the **mean** of the new data set? Round your answer to the nearest tenth.

        $n =$  \_\_\_\_\_ 7. Thirty-two times the difference of  $n$  and 6 is equal to the sum of 48 and twice  $n$ . What is  $n$ ?

\_\_\_\_\_ 8. Evaluate:  
 $8^3 \cdot 4^{-3} + 2^3$

\_\_\_\_\_ 9. Write an absolute value equation for the graph.

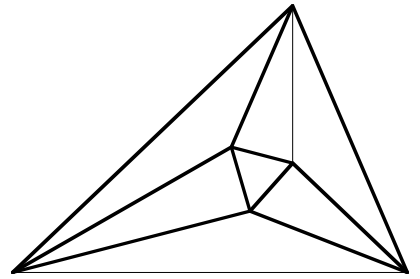


        $q =$  \_\_\_\_\_ 10. Solve for  $q$  in terms of  $n$  and  $p$ :  
 $n = \frac{1}{3}(p - q) + 42p$

# Meet 2 – Team Event 2014-2015

Questions are worth 4 points each.

ANSWERS



$x = -8$  1.  $\frac{2x-14}{5} = \frac{3x}{4}$ ;  $8x - 56 = 15x$ ;  $-56 = 7x$ ;  $-8 = x$

9 2.  $-|7 - 4^2| = -9$ ;  $3^3 = 27$ ;  $27 - (-9) = 36$ ;  $\frac{36}{2} = 18$ ;  $-9 + 18 = 9$

$7.54 \times 10^6$  phones 3.  $5.8(0.3) = 1.74$ ;  $5.8 + 1.74 = 7.54$  million  
 $7.54$  million =  $7.54 \times 10^6$

12 4.  $6 + 7 + 8 + 8 + 10 + 10 + 13 + 14 + 14 + 14 + 15 + 16 + 16 + 17 = 168$   
 $168/14 = 12$

13.5 5.

12.3 6. Either a 16 or a 17 could have been added.

w/16)  $168 + 16 = 184$ ;  $\frac{184}{15} \approx 12.3$

w/17)  $168 + 17 = 185$ ;  $\frac{185}{15} \approx 12.3$

$n = 8$  7.  $32(n - 6) = 2n + 48$ ;  $32n - 192 = 2n + 48$ ;  $30n = 240$ ;  $n = 8$

16 8.  $512 \cdot \frac{1}{64} + 8 = 8 + 8 = 16$

$|x + 1.5| = 5.5$  9.  $4 - (-7) = 11$ ;  $11/2 = 5.5$ ;  $-7 + 5.5 = -1.5$

or)  $|x + \frac{3}{2}| = \frac{11}{2}$

$q = -3n + 127p$  10.  $n = \frac{1}{3}p - \frac{1}{3}q + 42p$ ;  $n = 42\frac{1}{3}p - \frac{1}{3}q$ ;  $n - 42\frac{1}{3}p = -\frac{1}{3}q$ ;  $-3n + 127p = q$