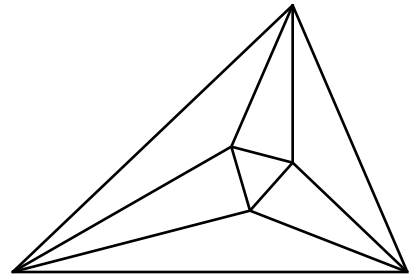


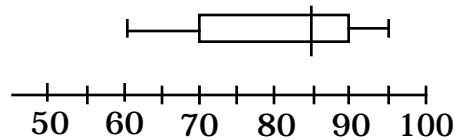
# Meet 5 - Event A 2001-2002

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



- \_\_\_\_\_ 1. What number must be added to this data to make the mode larger than the median?  
7, 4, 1, 3, 7, 4, 2

- \_\_\_\_\_ 2. Ms. Olson made this box and whisker plot of the test scores of her students.



Which statement must be true?

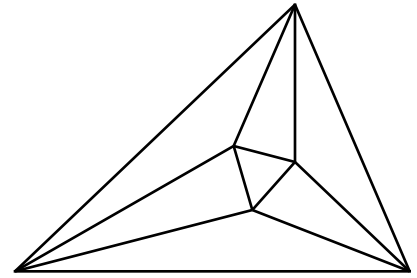
- A. There are 28 students in the class.
  - B. The interquartile range is 35.
  - C. Half the students scored less than 70 or more than 90.
  - D. The mean score is 85.
  - E. Most of the students scored 85.
- \_\_\_\_\_ 3. In Ms. Olson's class, what was the highest score on the test?
- \_\_\_\_\_ 4. When Janice drops the highest and lowest scores of her 10 quizzes, the mean goes from 78 to 82. If her highest score was 98, what was her lowest score?
- \_\_\_\_\_ 5. If the radius and height of a cylinder can both double, by what number is the volume multiplied?

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

# Meet 5 - Event A 2001-2002

## Answers

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



7 1. 1, 2, 3, 4, 4, 7, 7, 7  
median=4, mode=7

C 2. Half the scores are in the box and half the scores are outside the box.

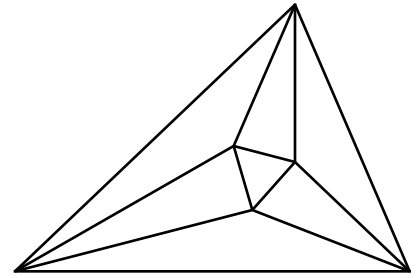
95 3. There must be a score at the end of the whisker.

26 4.  $\frac{l + a + K + b + 98}{10} = 78$   $l + a + K + b + 98 = 780$   
 $\frac{a + K + b}{8} = 82$   $a + K + b = 656$   
 $l + 656 + 98 = 780$   $l = 26$

8 5.  $V = \pi r^2 h$  before doubling,  $V = \pi (2r)^2 (2h) = 8\pi r^2 h$  after doubling

# Meet 5 - Event B 2001-2002

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



\_\_\_\_\_ 1. Simplify:  $3x + 14 - 2(x - 8) + 7$

\_\_\_\_\_ 2. Expand and combine like terms:  $(x - 3)(2x + 5)$

\_\_\_\_\_ 3. Find one numerical equivalent value for  $\sum_{k=0}^3 2^k$

\_\_\_\_\_ 4. Faisa flipped a penny four times. What is the probability that she got 3 heads and 1 tail, expressed as a fraction?

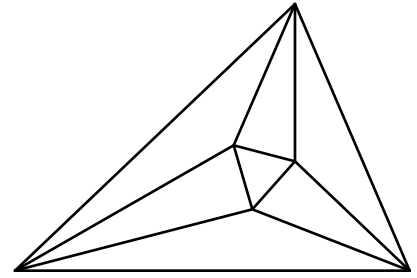
\_\_\_\_\_ 5. Jamal has 65% probability of making any one free throw. What is the probability he makes two in a row, expressed as a decimal?

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

# Meet 5 - Event B 2001-2002

## Answers

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



     $x + 37$      1.  $3x + 14 - 2x + 16 + 7 = x + 37$

     $2x^2 - x - 15$      2.  $2x^2 + 5x - 6x - 15 = 2x^2 - x - 15$

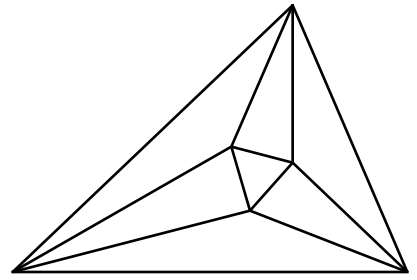
    15     3.  $2^0 + 2^1 + 2^2 + 2^3 = 1 + 2 + 4 + 8 = 15$

     $\frac{1}{4}$      4. Each combination of heads and tails has a probability of  $\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{16}$ , since heads and tails are equally likely. There are 4 ways to get exactly 1 tail: THHH, HTHH, HHTH, HHHT. So  $4 \times \frac{1}{16} = \frac{1}{4}$ .

    0.4225     5.  $0.65 \times 0.65 = 0.4225$

# Meet 5 - Event C 2001-2002

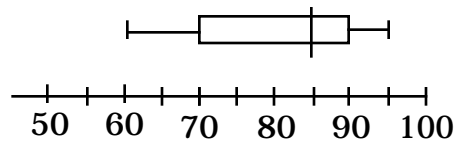
Questions are worth 2-2-2-4-4 points respectively.  
Remember your units.



\_\_\_\_\_ 1. What is the median score on this stem and leaf plot?

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

\_\_\_\_\_ 2. Ms. Olson made this box and whisker plot of the test scores of her students.



Which statement must be true?

- A. There are 28 students in the class.
- B. The interquartile range is 35.
- C. Half the students scored less than 70 or more than 90.
- D. The mean score is 85.
- E. Most of the students scored 85.

\_\_\_\_\_ 3. In Ms. Olson's class, what was the highest score on the test?

\_\_\_\_\_ 4. Mia is 16 years older than the sum of Alice's age and Carl's age. The square of Mia's age is 1632 more than the square of the sum of Alice's age and Carl's age. What is the sum of Mia's, Alice's and Carl's ages?

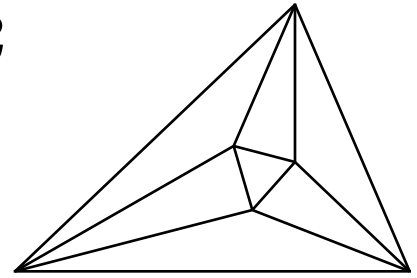
\_\_\_\_\_ 5. If the radius and height of a cylinder can both double, by what number is the volume multiplied?

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

# Meet 5 - Event C 2001-2002

## Answers

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



55 1. There are 13 scores, so the 7th score is 55.

C 2. Half the scores are in the box and half the scores are outside the box.

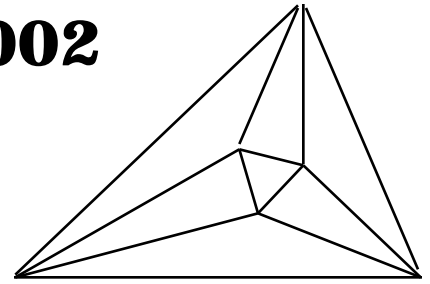
95 3. There must be a score at the end of the whisker.

102 4.  $A: M = 16 + A + C$     $B: M^2 = 1632 + (A + C)^2$   
From A,  $A + C = M - 16$ , so substitute into B:  
 $M^2 = 1632 + (M - 16)^2 = 1632 + M^2 - 32M + 256$   
 $32M = 1888$ ,    $M = 59$   
From A,  $59 = 16 + A + C$ , so  $A + C = 43$ ,  $59 + 43 = 102$

8 5.  $V = \pi r^2 h$  before doubling,  $V = \pi (2r)^2 (2h) = 8\pi r^2 h$  after doubling

# Meet 5 - Team Event 2001-2002

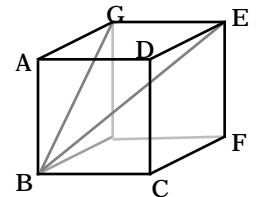
Questions are worth 4 points each.  
Remember your units.



\_\_\_\_\_ 1. If the radius of a cylindrical can triples and the height stays the same, by what number is the volume multiplied?

\_\_\_\_\_ 2. Simplify:  $\sqrt{\sqrt{64}}$ .

$\sum_{k=1}$  \_\_\_\_\_ 3. Write in sigma notation with  $k$  starting at 1:  
 $2 \cdot 1 + 4 \cdot 1 + 5 \cdot 2 + 6 \cdot 3$



\_\_\_\_\_ 4. If the longest diagonal, BE, of a cube is 36 cm, how long is one side, exactly in simplified form?

\_\_\_\_\_ 5. A conical pile of wheat has a circumference of 300 feet and a slant height of 90 feet. What is the volume of wheat in the pile, to 3 significant figures?

\_\_\_\_\_ 6. If the probability of having a boy is the same as the probability of having a girl, what is the probability of having two girls and two boys in a family, as a reduced fraction?

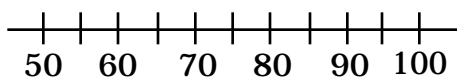
\_\_\_\_\_ 7. What one number is the same as  $\sum_{k=2}^4 -1^k k$ ?

\_\_\_\_\_ 8. What is the mean, to two decimal places, of:  
 $-12.3, -5.8, -3.5, -3, 2.7, 9.1, 9.1$ ?

Martin	Smith
3	9 0 0 2 5
2 4 0	8 1 4 4 5 6
1 1 4 4	7 1 2 4 4 4 8
0 2 2 4 5 6	6 0 9
8 9	5

\_\_\_\_\_ 9. Mr. Martin's class and Ms. Smith's class compared their scores on the unit test with a double stem and leaf plot. What does the "3" represent?

\_\_\_\_\_ 10. Make a box and whisker plot of Ms. Smith's class. Label the 5 points that have a vertical mark with their numerical value.



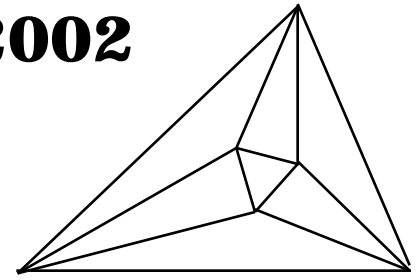
School \_\_\_\_\_

# Meet 5 - Team Event

# 2001-2002

## Answers

Questions are worth 4 points each.  
Remember your units.



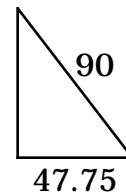
9 1.  $V = \pi r^2 h$  before tripling.  $V = \pi(3r)^2 h = 9\pi r^2 h$  after tripling.

$2\sqrt{2}$  2.  $\sqrt{8} = 2\sqrt{2}$

$\sum_{k=1}^5 (k+1)(k-2)$  3. The term  $3 \cdot 0 = 0$  and so is missing.

$2\sqrt{3}$  cm 4.  $x^2 + (x\sqrt{2})^2 = x^2 + 2x^2 = 3x^2 = 36$ ,  $x^2 = 12$ ,  $x = 2\sqrt{3}$  cm

546,000 ft<sup>3</sup> 5.  $\frac{300}{\pi} = 95.4929 = 2r$ ,  $r = 47.75$   
 $h = \sqrt{90^2 - r^2} = \sqrt{5820.27} = 76.29$   
 $V = \pi(47.75)^2(76.29) = 546391$



$\frac{3}{8}$  6. Four children:  $\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{16}$ . GGGB, GBGB, GBBG, BGGB, BGBG, BBGG  
 $6 \times \frac{1}{16} = \frac{6}{16} = \frac{3}{8}$

-9 7.  $-1^1 \cdot 2 - 1^3 \cdot 3 - 1^4 \cdot 4 = -2 - 3 - 4 = -9$  There is no parentheses around -1 and  $-1^k \neq (-1)^k$

-0.53 8.  $-3.7/7 = -0.528$

93 9. 3 | 9 | 0 0 2 5 The three represents a score of 93.

10.

