PSIA

**Private Schools
Interscholastic
Association**

Mathematics
DISTRICT Contest
Grades 4 & 5

2017

Score:_____

(Please do not open test until the signal is given to begin.)

Directions: Choose the best answer for each of the following problems. Choice E is "NOT" for "None of these".

1. $967 - 583 =$

   A. 484   B. 384   C. 474   D. 374   E. NOT

2. $243 + 268 =$

   A. 411   B. 511   C. 401   D. 501   E. NOT

3. $17 \times 9 =$

   A. 163   B. 173   C. 143   D. 153   E. NOT

4. Garbiñe has 47 tennis balls. Anna has 23 tennis balls. How many tennis balls should Garbiñe give Anna so that they have the same number of tennis balls?

   A. 12   B. 9   C. 11   D. 10   E. NOT

5. Crystal started with 70 nickels. She gave 85¢ to Marjorie. How many nickels does Crystal have left?

   A. 49   B. 51   C. 53   D. 55   E. NOT

6. $23 + 23 + 25 + 25 + 27 + 27 =$

   A. 200   B. 175   C. 160   D. 150   E. NOT

7. $4\frac{1}{3}$ feet = _____ inches

   A. 52   B. 53   C. 54   D. 55   E. NOT

8. Emma has a string that is S inches long. She wants to cut it into six equal pieces. Which expression gives the length of each piece?

   A. $S + 6$ B. $S \times 6$ C. $6 \div S$ D. $S \div 6$ E. NOT

9. $23 \times 27 =$

   A. 421   B. 521   C. 621   D. 721   E. NOT

10. $0.85 =$ _____ (fraction)

    A. $\dfrac{17}{20}$ B. $\dfrac{3}{4}$ C. $\dfrac{9}{11}$ D. $\dfrac{21}{25}$ E. NOT

11. The sum of the ages of Jasmine, Spencer, Valeria, and Scotty is 51. Jasmine is twice as old as Valeria. Spencer and Scotty's ages add up to 30. When Valeria was born, Spencer was 11. What is the sum of Jasmine and Scotty's ages?

    A. 26   B. 32   C. 19   D. 30   E. NOT

12. What is the prime factorization of 232?

    A. $2^2 \times 3 \times 19$ B. $2^2 \times 7 \times 11$ C. $2^3 \times 29$ D. $2^3 \times 31$ E. NOT

13. A car is traveling at 44 mph. How far does it travel in 15 minutes?

    A. 16 miles   B. 11 miles   C. 12 miles   D. 8 miles   E. NOT

14. What is the 14th number in the pattern 5, 8, 11, 14, ... ?

    A. 44   B. 47   C. 38   D. 41   E. NOT

15. $42 \times$ what number $= 63 \times 48$?

    A. 76   B. 74   C. 72   D. 68   E. NOT
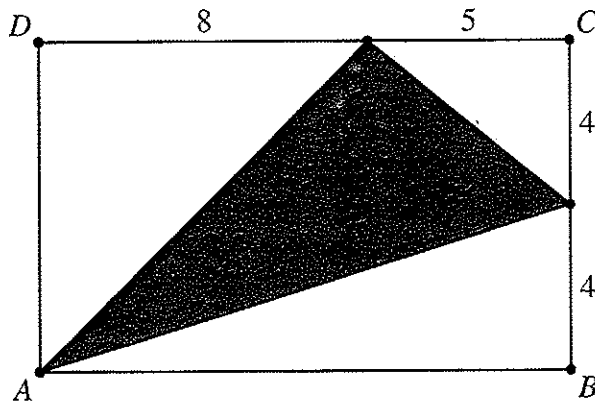
16. $2368 \div 8 \div 8 =$

    A. 39   B. 37   C. 29   D. 27   E. NOT

17. A pair of shoes normally costs $80.00, but Sharon has a coupon for 20% off. How much will she save by using the coupon?

    A. $64.00   B. $72.00   C. $16.00   D. $8.00   E. NOT

18. *ABCD* is a rectangle. Find the shaded area.

    A. 32
    B. 36
    C. 40
    D. 44
    E. NOT

19. $\dfrac{3}{4} - \dfrac{2}{5} =$

    A. $\dfrac{1}{9}$ B. $\dfrac{7}{20}$ C. $\dfrac{3}{10}$ D. $\dfrac{11}{40}$ E. NOT

20. The letters P and Q represent digits in the equation PP2 $\times$ 37 = Q04Q4. Find P + Q.

    A. 13   B. 11   C. 9   D. 7   E. NOT

21. Annabel gave $\frac{1}{6}$ of her cookies to Alfonso. Alfonso now has 20 cookies and Annabel has 45 cookies. How many cookies did Alfonso start with?

    A. 9   B. 11   C. 13   D. 15   E. NOT

22. Jim scored 74, 88, 90, and 96 on his science quizzes. What was his average score?

    A. 86   B. 87   C. 88   D. 89   E. NOT

23. If $x + 6 = 31$, what is $x + 9$?

    A. 37   B. 26   C. 17   D. 34   E. NOT
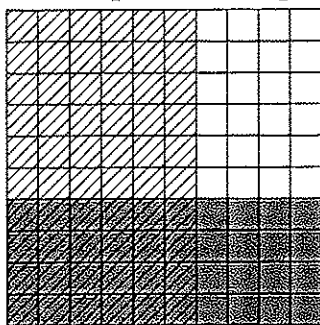
24. Footballs cost $9 each and basketballs cost $15 each. How many different combinations of footballs and basketballs can you buy for between $45 and $90, inclusive?

    A. 29   B. 24   C. 27   D. 23   E. NOT

25. $0.73 + 4.8 =$

   A. 5.73   B. 5.63   C. 5.43   D. 5.53   E. NOT

26. Which expression is represented by the figure?

A. 0.6×0.5
B. 0.4×0.4
C. 0.3×0.2
D. 0.4×0.6
E. NOT

27. How many times larger is twenty-five hundredths than five ten-thousandths?

    A. 5000   B. 5   C. 500   D. 50   E. NOT

28. A basketball team has five players. One of these players is the captain. How many ways can the players be listed if the captain's name must be listed first?

    A. 60   B. 12   C. 120   D. 24   E. NOT

29. $\dfrac{47^2 - 43^2}{17^2 - 13^2} =$

    A. 9   B. 12   C. 3   D. 6   E. NOT

30. When $\left(4.5 \times 10^{11}\right) \times \left(4 \times 10^{13}\right)$ is worked out and written in scientific notation, what is the exponent on the 10?

    A. 24   B. 25   C. 26   D. 27   E. NOT

31. $\dfrac{1}{26} + \dfrac{3}{26} + \dfrac{5}{26} + \dfrac{7}{26} + \ldots + \dfrac{25}{26} =$

    A. $7\dfrac{1}{2}$ B. 7   C. $6\dfrac{1}{2}$ D. 6   E. NOT

32. If May 5th falls on Monday, on what day of the week will the first day of June fall (same year)?

    A. Saturday   B. Tuesday   C. Sunday   D. Monday   E. NOT

33. Find the remainder when 8847555 is divided by 9.

    A. 2   B. 3   C. 4   D. 5   E. NOT

34. Find the perimeter.
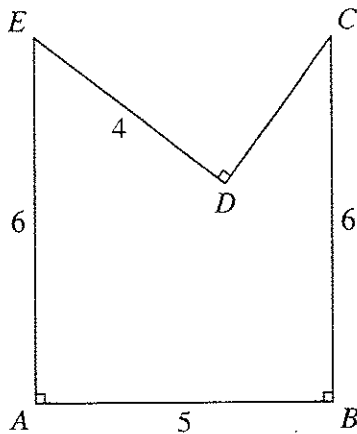
A. 22

B. 24

C. 21

D. Cannot be determined

E. NOT

35. The base cell phone plan gives the user 500 free text messages for $60 per month and then you add 10¢ for each extra text message used. The following chart shows Callie's cell phone text message usage. How much was Callie's total cell phone bill for these three months?

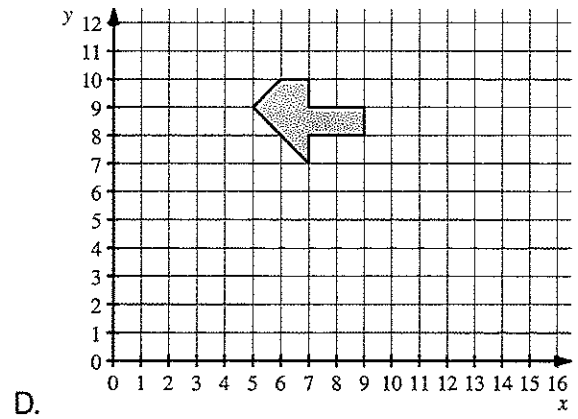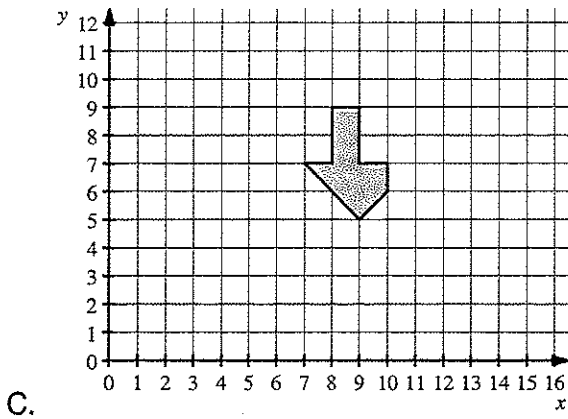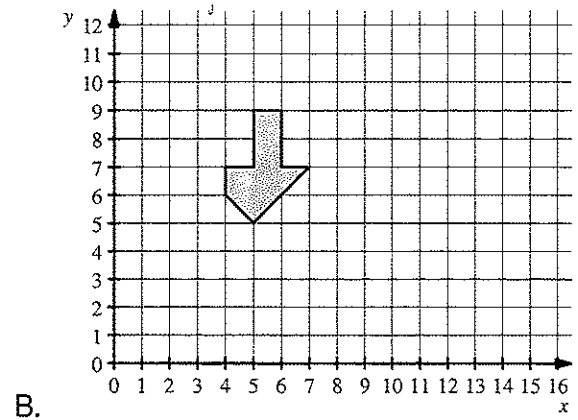| Month	Text Messages
Jan	624
Feb	738
Mar	472

A. $216.20

B. $212.80
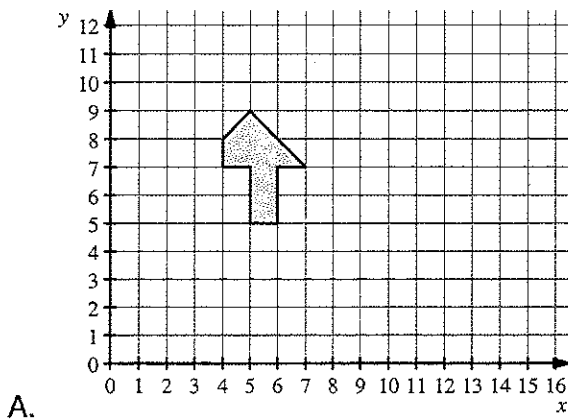
C. $210.40

D. $208.60

E. NOT

36. The area of a square is 64 cm^2. What is its perimeter?

A. 64 cm   B. 32 cm   C. 48 cm   D. 40 cm   E. NOT

37. If $Q \times 72 \div 5 = 480$, what is the value of $Q \times 24 \div 10$?

A. 80   B. 320   C. 160   D. 240   E. NOT

38. Sonya is going to rotate the figure 180° around point P. What is the result?

A.

B.

C.

D.
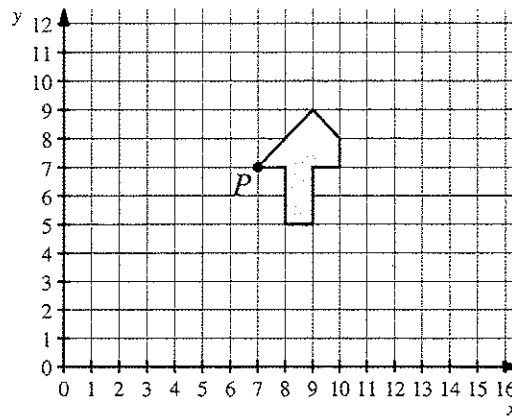
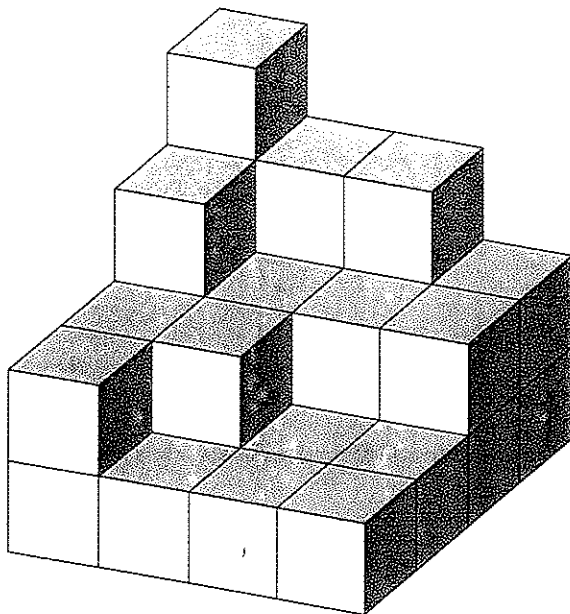
E. NOT

39. In $\triangle ABC$, point M lies on $\overline{BC}$ so that $BM : MC = 2 : 7$ and point N lies on $\overline{AC}$ so that $AN : NC = 1 : 2$. Point Q is the point of intersection of $\overline{BN}$ and $\overline{AM}$. Find $AQ : QM$.

A. $7 : 9$ B. $6 : 7$ C. $4 : 13$ D. $9 : 4$ E. NOT

40. The structure is sitting on the table. How many cube are there?

A. 29

B. 30

C. 31

D. 32

E. NOT

PSIA Mathematics Grades 4 & 5 Contest
Student Answer Sheet

CONTESTANT ID#:_____   GRADE LEVEL:_____

INSTRUCTIONS: Place the **printed** CAPITAL letter of each answer choice (A, B, C, or D) in the blank corresponding to the test item number. **SCORING:** +5 for each correct answer; -2 for each incorrect answer; no deduction is taken for skipped or unanswered items. Visible erasures and mark-outs constitute a 2-point deduction ONLY if a correct answer is not written in the answer space.

1. _____   16. _____   31. _____

2. _____   17. _____   32. _____

3. _____   18. _____   33. _____

4. _____   19. _____   34. _____

5. _____   20. _____   35. _____

6. _____   21. _____   36. _____

7. _____   22. _____   37. _____

8. _____   23. _____   38. _____

9. _____   24. _____   39. _____

10. _____   25. _____   40. _____

11. _____   26. _____   **SCORE / INITIALS:**

12. _____   27. _____   Grader #1:_____ _____

13. _____   28. _____   Grader #2:_____ _____

14. _____   29. _____   Grader #3:_____ _____

15. _____   30. _____   **Official Score:** _____

Contest Director ONLY: Match school & name AFTER tests are scored:_____

PSIA Mathematics Contest
Grades 4 & 5
DISTRICT — 2017
Answer Key

Scoring: +5 for each correct answer; -2 for each incorrect answer; no points are deducted for skipped or unanswered items. Deduct 2 points for erasures and mark-outs that do not result in a correct answer.

1.	B	16.	B	31.	C
2.	B	17.	C	32.	C
3.	D	18.	B	33.	E (6)
4.	A	19.	B	34.	B
5.	C	20.	D	35.	A
6.	D	21.	B	36.	B
7.	A	22.	B	37.	A
8.	D	23.	D	38.	B
9.	C	24.	A	39.	D
10.	A	25.	D	40.	D
11.	A	26.	D		
12.	C	27.	C		
13.	B	28.	D		
14.	A	29.	C		
15.	C	30.	B		