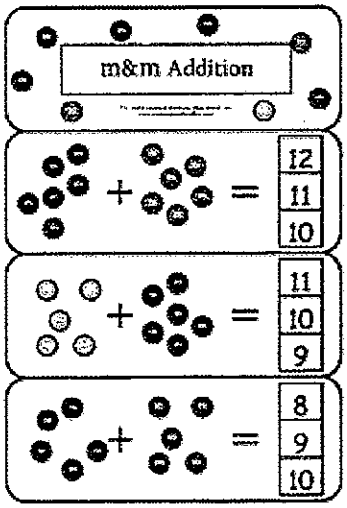
Place Contestant ID Label HERE
BEFORE Contest Begins.

PSIA
Private Schools
Interscholastic
Association

Mathematics
DISTRICT Contest
Grades 4 & 5



2018

FINAL 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. $157 + 784 =$

   A. 931 B. 831 C. 941 D. 841 E. NOT

2. $396 - 249 =$

   A. 147 B. 167 C. 157 D. 137 E. NOT

3. $34 \times 8 =$

   A. 292 B. 286 C. 272 D. 256 E. NOT

4. How many inches are there in 4 feet?

   A. 48 B. 12 C. 40 D. 36 E. NOT

5. Emilee has 18 quarters and 24 dimes. How many nickels does she need to make \$9.00?

   A. 63 B. 84 C. 21 D. 42 E. NOT

6. What number goes in the box? $\square - 376 = 487$

   A. 763 B. 863 C. 111 D. 121 E. NOT

7. A bakery has a shelf with honey buns. The shelf has 3 columns with H honey buns each. Which expression gives the total number of honey buns?

   A. $H - 3$ B. $3 + H$ C. $H \div 3$ D. $3 \times H$ E. NOT

8. How much time passes from 5:37pm to 7:14pm, same day?

A. 104 minutes B. 97 minutes C. 84 minutes D. 117 minutes E. NOT

9. An algorithm takes the previous number or result and runs left to right. The symbol ♡ means to add 3 and the symbol ★ means to multiply by 7. Find the value of 8 ★ ♡.

A. 59 B. 77 C. 68 D. 49 E. NOT

10. $\frac{5}{9} - \frac{1}{2} =$

A. $\frac{1}{18}$ B. $\frac{1}{12}$ C. $\frac{1}{36}$ D. $\frac{1}{24}$ E. NOT

11. $1.54 \times 0.3 =$

A. 0.442 B. 4.42 C. 0.462 D. 4.62 E. NOT

12. Which symbol goes in the box? $499 \times 6 \square 3013$

A. > B. < C. = D. Cannot be determined E. NOT

13. What is the smallest prime number greater than 19?

A. 33 B. 31 C. 27 D. 29 E. NOT

14. $1\frac{1}{4} \times 2\frac{2}{5} =$

A. $2\frac{4}{5}$ B. $2\frac{17}{20}$ C. $3\frac{1}{20}$ D. 3 E. NOT

15. Each of the numbers 9, 2, 6, and 3 must be placed in the boxes, using each number once, to make the largest possible whole number. What is the largest possible whole number? $\square \times \square - \frac{\square}{\square}$

A. 16 B. 24 C. 25 D. 53 E. NOT

16. $2976 \div 8 =$

A. 382 B. 372 C. 362 D. 352 E. NOT

17. Which of the following fractions lies between $\frac{2}{5}$ and $\frac{3}{7}$?

A. $\frac{4}{11}$ B. $\frac{7}{16}$ C. $\frac{5}{12}$ D. $\frac{9}{25}$ E. NOT

18. $11 \times \frac{1}{3} + 12 \times \frac{1}{3} + 13 \times \frac{1}{3} =$

A. 9 B. 36 C. 24 D. 18 E. NOT

19. Find the value of $5^3 + 3^2 - 2^3$.

A. 127 B. 126 C. 125 D. 124 E. NOT

20. How many positive integral divisors does 44 have?

A. 10 B. 12 C. 6 D. 8 E. NOT

21. Solve for x: $7x - 10 = 11$

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

22. $6\frac{1}{2}$ gallons = _____ pints

A. 56 B. 58 C. 52 D. 54 E. NOT

23. What is the remainder when 784350 is divided by 9?

A. 2 B. 6 C. 4 D. 0 E. NOT

24. The area of a rectangle is 84 cm^2. If the length is 12 cm, what is the perimeter?

A. 46 cm B. 42 cm C. 38 cm D. 34 cm E. NOT

25. $\sqrt{625}$ =

A. 25 B. 27 C. 24 D. 28 E. NOT

26. What is the (positive) difference between the 26th and 28th term in the sequence 47, 51, 55, 59, . . . ?

A. 8 B. 6 C. 4 D. 2 E. NOT

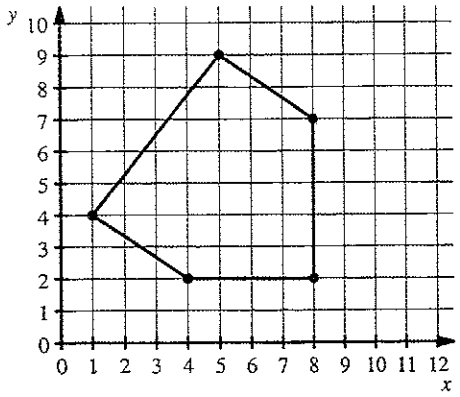
27. If $14 \times Q = 120$, what is $21 \times Q$?

A. 180 B. 160 C. 150 D. 210 E. NOT

28. $1^3 + 2^3 + 3^3 + 4^3 + 5^3 + 6^3 + 7^3 + 8^3$ =

A. 1344 B. 1225 C. 1189 D. 1296 E. NOT

29. Find the area of the figure shown.

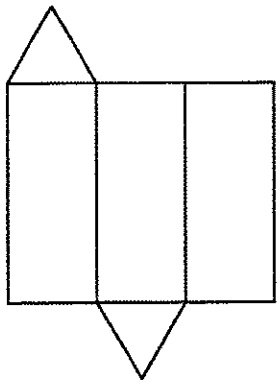


A. 31
B. 29
C. 35
D. 33
E. NOT

30. How many four-character passwords can be created using the characters A, B, C, D, 1, and 2, using each once, where the first two characters are letters?

A. 120 B. 196 C. 144 D. 288 E. NOT

31. What solid will this net make?



A. triangular prism
B. pyramid
C. cube
D. cone
E. NOT

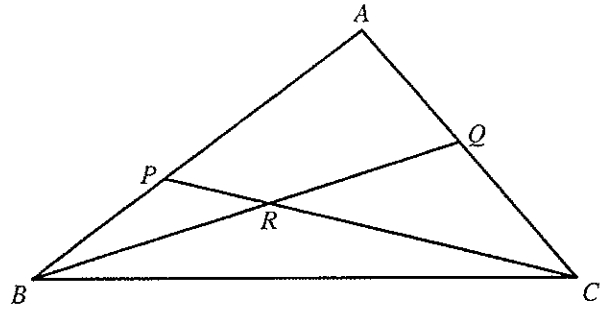
32. $\dfrac{24^2 - 21^2}{9^2 - 6^2} =$

A. 3 B. 6 C. 12 D. 24 E. NOT

33. $\frac{14}{13} + \frac{15}{13} + \frac{16}{13} + \ldots + \frac{26}{13} =$

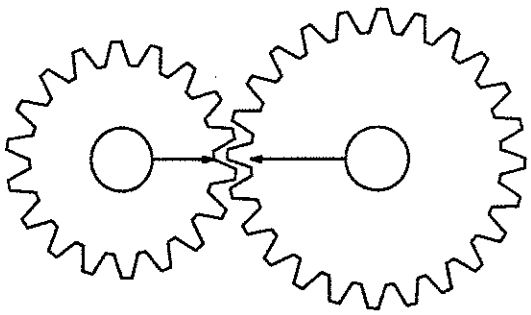
A. 18 B. 20 C. 22 D. 24 E. NOT

34. In $\triangle ABC$, $AP : PB = 3 : 2$, and $AQ : QC = 5 : 6$. If $BQ = 40$, what is BR?



A. 18
B. 22
C. 24
D. 16
E. NOT

35. The gears shown are allowed to rotate, starting with the arrows aligned, as shown. How many rotations must Gear B make before the arrows line up again?



A. 3 B. 4 C. 5 D. 6 E. NOT

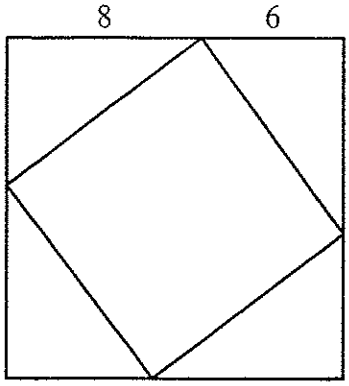
36. The fraction $\frac{43}{100} = \frac{x}{10} + \frac{y}{100}$, where x and y are single digits. What is $x - y$?

A. 0 B. 1 C. 2 D. 3 E. NOT

37. An 8-foot long ribbon is cut into pieces that are 5 inches long or 3 inches long. A total of 28 pieces were cut. How many 5-inch pieces are there?

A. 9 B. 8 C. 7 D. 6 E. NOT

38. A square is inscribed in another square. What is the area of the inner square?



A. 120
B. 112
C. 96
D. 100
E. NOT

39. A coin is flipped 4 times. What is the probability of getting at least 3 Heads?

A. $\frac{1}{2}$ B. $\frac{3}{8}$ C. $\frac{5}{16}$ D. $\frac{1}{4}$ E. NOT

40. The grid below gives the name of the person and the amount of money that person charges to perform each job. All four jobs must be assigned with each person getting a different job. What is the smallest possible cost to have all jobs performed?

	Laundry	Empty Trash	Mop	Baby sit
Quinn	$9	$15	$19	$6
Rose	$12	$18	$17	$12
Shea	$7	$21	$23	$10
Tim	$8	$10	$21	$16

A. $40 B. $36 C. $42 D. $38 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– 2018
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. C	16. B	31. A
2. A	17. C	32. A
3. C	18. E (12)	33. B
4. A	19. B	34. B
5. D	20. C	35. A
6. B	21. C	36. B
7. D	22. C	37. D
8. B	23. D	38. D
9. A	24. C	39. C
10. A	25. A	40. A
11. C	26. A	
12. B	27. A	
13. E (23)	28. D	
14. D	29. D	
15. B	30. D	