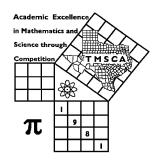
1st Score:	2nd Score:	3rd Score:				
Grader:	Grader:	Grader:	1	Final S	core	
PLACE LABEL BELOW						
Name:		School:				
SS/ID Number:City:						
Grade: 4 5 6	7 8 Cla	ssification: 1A 2A	3A	4A	5A	6A



TMSCA MIDDLE SCHOOL NUMBER SENSE DISD INVITATIONAL® OCTOBER 6, 2018

GENERAL DIRECTIONS

- 1. Write only the requested information on this coversheet. Do not make any additional marks on this cover sheet.
- 2. You will be given 10 minutes to take this test.
- 3. There are 80 problems on the test.
- 4. Write in ink only! It would be advantageous to use <u>non-black</u> ink.
- 5. Solve as many problems as you can in the order that they appear.
- 6. Problems that are skipped are considered wrong.
- 7. Problems that appear after the last attempted problem do not count either for or against you.
- 8. ALL PROBLEMS ARE TO BE SOLVED MENTALLY! [No scratch work!]
- 9. Only the answer may be written in the answer blank.
- 10. Starred [*] problems require approximate INTEGRAL answers that are within 5% of the exact answers. All other problems require exact answers.
- 11. All problems answered correctly are worth <u>FIVE</u> points. <u>FOUR</u> points will be deducted for all problems answered incorrectly or skipped before the last problem attempted.

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- (43) If 2x 11 = 27, then x =
- (44) A set with 5 elements has subsets
- (45) 1+3+5+...+31=_____
- (46) The area of a square with diagonal 14 is _____
- $(47) \ \ 235_9 = \underline{\hspace{1cm}}_{10}$
- (48) The measure of the exterior angle of an equilateral triangle is _______°
- (49) 23₄ = _______
- *(50) $\sqrt{575 \times 525} =$
- (51) $23 \times \frac{23}{19} =$ (mixed number)
- (52) The probability of choosing a prime number from the integers between 10 and 20 is_____
- $(53) 92^2 88^2 = \underline{\hspace{1cm}}$
- (54) If $f(x) = \sqrt{21x+1}$, then f(3) =
- (55) 7 + 10 + 13 + ... + 43 =
- (56) If f(x) = 3x + 19, then f(15) f(5) =_____
- (57) The positive geometric mean of 7 and 28 is_____.
- (58) $\frac{5}{11} + \frac{11}{5} =$ (mixed number)
- $(59) 64_9 15_9 = \underline{\hspace{1cm}}_9$
- *(60) 98 × 95 × 94 =_____
- (61) What is the units digits of 98³?_____
- (62) The y-intercept of $f(x) = 4x^2 7x 9$ is _____
- (63) $9\frac{1}{3} \times 9\frac{1}{3} =$ (mixed number)

- (64) 0.727272... = _____(fraction)
- (65) $13^2 + 130^2 = 13k$. k =
- (66) What is the x coefficient of $(4x^2 + 3x + 5)(2x^2 + 3x + 7)$?_____
- (67) The sum of the infinite geometric series, 3.6 + 1.2 + 0.4 + ... =
- (68) What is the 7th pentagonal number?_____
- (69) How many triangles can be drawn using any 3 vertices of a pentagon?
- *(70) Find the area of an isosceles right triangle triangle with hypotenuse 84.
- (71) The number of positive integral divisors less than 25 that are relatively prime to 25 is_____
- (72) If 2 a's = 9 b's and 3 b's = 14 c's, then 1a = c's
- (73) An 24-sided polygon has how many more distinct diagonals than a 21-sided polygon?
- (74) f(x) is a parabola with a vertex of
 (3, -4) and g(x) = 5f(x 4) + 11.
 g(x) has a vertex of (h,k). k = _______
- (75) The point (7, -3) is on the line 5x 3y = C, $C = ___$
- (76) If x is an element of $\{10, 11, 12, 13, ..., 20\}$, what is the probability that $200 \le x^2 \le 300$?
- (77) $\frac{(n+5)!}{(n-1)!}$ is a polynomial of degree_____
- (78) If P and Q are the roots of $3x^2 - 5x = 14$, then PQ – P – Q =_____
- (79) The sum of the integral solutions of $|x-3| \le 12$ is _____
- *(80) The volume of a cube with side 24 is _____

2018 Dallas ISD Invitational Number Sense Test

(2)
$$29 \times 50 =$$

(8)
$$12 \times 2 + 15 - 7 \div 2 =$$

(11) Which of the following is greater
$$\frac{6}{11}$$
 or $\frac{13}{22}$?

$$(12) \quad 32 \times 12 \, \frac{1}{2} = \underline{\hspace{1cm}}$$

$$(14) \ \ 33\frac{1}{3} \times 87 = \underline{\hspace{1cm}}$$

$$(15) 13^2 =$$

$$(17) 44 \times 45 + 56 \times 45 = \underline{\hspace{1cm}}$$

(18)
$$\frac{5}{9} + \frac{13}{18} =$$
 _____ (mixed number)

(21)
$$75^2 =$$

(23)
$$6^3 =$$

$$(24) 12 \times 43 =$$

$$(25)$$
 $437 \times 111 =$

$$(28) 42 \times 2 \frac{1}{3} = \underline{\hspace{1cm}}$$

$$(32) 9^2 + 27^2 = \underline{\hspace{1cm}}$$

(36)
$$8\frac{3}{4} \times 8\frac{1}{4} =$$
 ______(mixed number)

$$(41) \sqrt{1225} =$$