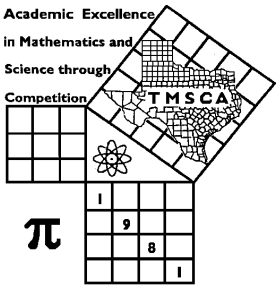
1st Score: _____ Grader: _____	2nd Score: _____ Grader: _____	3rd Score: _____ Grader: _____	**Final Score**

PLACE LABEL BELOW

Name:_____ School:_____

SS/ID Number:_____ City:_____

Grade: 4 5 6 7 8 Classification: 1A 2A 3A 4A 5A 6A



TMSCA MIDDLE SCHOOL

NUMBER SENSE

STATE MEET TEST©

APRIL 24, 2021

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 non-black 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 FIVE points. FOUR points will be deducted for all problems answered incorrectly or skipped before the last problem attempted.

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2020-2021 TMSCA Middle School Number Sense State Meet Test

(1) $764 + 235 =$ _____

(2) $1089 - 543 =$ _____

(3) $80 \times 15 =$ _____

(4) $96\% =$ _____ (fraction)

(5) $836 \times 11 =$ _____

(6) $\frac{3}{4} + \frac{5}{12} =$ _____ (mixed number)

(7) $57 \div 9 =$ _____ (mixed number)

(8) $26 + 30 + 34 =$ _____

(9) $12(8) + 9(8) + 19(8) =$ _____

*(10) $2459 + 544 + 88 =$ _____

(11) $74 \times 76 =$ _____

(12) $6\frac{1}{6} - 2\frac{1}{3} =$ _____ (mixed number)

(13) $109 \times 111 =$ _____

(14) 70% of 80 plus 44 = _____

(15) $56 \times 64 =$ _____

(16) $3\frac{5}{9} \times 3\frac{4}{9} =$ _____ (mixed number)

(17) $93 \times 92 =$ _____

(18) $8\frac{1}{3} \times 3\frac{5}{8} =$ _____ (mixed number)

(19) $26 \times 86 =$ _____

*(20) $68485 \div 337 =$ _____

(21) $85 \times 55 =$ _____

(22) 2 yards + 4 feet + 6 inches = _____ inches

(23) $59 \times 25 =$ _____

(24) $22^2 + 66^2 =$ _____

(25) $98 \times 106 =$ _____

(26) If Erik has $8.45 in nickels, then he has _____ nickels

(27) $347 \times 12 =$ _____

(28) The cube root of -1331 is _____

(29) 140 base 10 = _____ base 8

*(30) $\sqrt{778654} =$ _____

(31) 0.393939… = _____ (fraction)

(32) $44^2 =$ _____

(33) $29^2 + 88^2 =$ _____

34) The additive inverse of 0.454545… is _____

(35)If 8 ads cost $5.00, then 12 ads cost $_____

(36) If $f(x) = x^2 + 12x + 36$, then $f(17) =$ _____

(37)Two numbers have a sum of 26, a product of 153, and a positive difference of _____

(38) $\frac{7}{11}$ of a gallon = _____ in^3

(39) If $3^{6x} = 81$, then $x =$ _____

*(40) $\sqrt[3]{50712} =$ _____

(41) $995^2 =$ _____

(42) $75°C =$ _____ °F

(43) $286 \times 91 =$ _____

(44) $543628 \div 11$ has a remainder of _____

(45) $S = \{3, 8, 15, 24, 35, 48, m, n...\}$. $m + n =$ _____

(46) The smaller root of $(3x+1)^2 = \frac{4}{25}$ is _____

(47) $223_9 - 156_9 =$ _____ $_9$

(48) The distance between the points $(6, 9)$ and $(1, -3)$ is _____

(49) How many integers between 14 and 74 are divisible by 4? _____

***(50)** $\sqrt{375} \times \sqrt{561} =$ _____

(51) The area of an equilateral triangle with a side = 22 cm is _____ $\sqrt{3}$ cm^2

(52) If $f(x) = 2x^2 + 3$, then $f\left(f(2)\right) =$ _____

(53) $674 \times 111 =$ _____

(54) $(807)^2 =$ _____

(55) $753_9 =$ _____ $_3$

(56) 180 mph = _____ ft/s

(57) $12^{-3} + 12^{-1} =$ _____

(58) $(29 + 34 \times 12) \div 8$ has a remainder of _____

(59) $0.727272... + 0.222... =$ _____

***(60)** $\pi^4 \times e^6 =$ _____

(61) $\frac{8}{13} - \frac{23}{40} =$ _____ (fraction)

(62) $563_8 \div 7_8 =$ _____ $_8$

(63) $\frac{13}{15} + \frac{13}{35} + \frac{13}{63} + \frac{13}{99} =$ _____

(64) The sum of the positive integral divisors of 54 is _____

(65) 36% of $455\frac{5}{9} =$ _____

(66) $20^3 - 19^3 =$ _____

(67) $9 \times \frac{11}{16} =$ _____ (mixed number)

(68) If $222_b = 86$, then $123_b =$ _____

(69) $32^2 - 48^2 = 40 \times k$. $k =$ _____

***(70)** $9 \times 18 \times 27 =$ _____

(71) How many distinct 6-letter arrangements can be made from the letters of the word beetle? _____

(72) $444 \times \frac{4}{27} =$ _____ (mixed number)

(73) The sum of the integral solutions of $|5x - 15| \le 40$ is _____

(74) If $f(x) = \frac{5x+16}{4} - 6$, then $f^{-1}(8) =$ _____

(75) 88 base 9 is _____ base 7

(76) The first 4 digits of the decimal for $\frac{157}{333}$ is 0._____

(77) $(21)(52)(74) =$ _____

(78) $5+9+14+23+37+...+254+411 =$ _____

(79) The smallest angle formed by the hands of a clock at 2:50 is _____°

***(80)** The volume of a square pyramid with each base edge = 15 cm and height = 25 cm is _____ cm^3

2020-2021 TMSCA MSNS State Meet Key

(1) 999

(2) 546

(3) 1200

(4) $\frac{24}{25}$

(5) 9196

(6) $1\frac{1}{6}$

(7) $6\frac{1}{3}$

(8) 90

(9) 320

***(10)** $2937-3245$

(11) 5624

(12) $3\frac{5}{6}$

(13) 12099

(14) 100

(15) 3584

(16) $12\frac{20}{81}$

(17) 8556

(18) $30\frac{5}{24}$

(19) 2236

***(20)** $194-213$

(21) 4675

(22) 126

(23) 1475

(24) 4840

(25) 10388

(26) 169

(27) 4164

(28) -11

(29) 214

***(30)** $839-926$

(31) $\frac{13}{33}$

(32) 1936

(33) 8585

(34) $-\frac{5}{11}$

(35) 7.50

(36) 529

(37) 8

(38) 147

(39) $\frac{2}{3}$

***(40)** $36-38$

(41) 990025

(42) 167

(43) 26026

(44) 8

(45) 143

(46) $-\frac{7}{15}$

(47) 56

(48) 13

(49) 15

***(50)** $436-481$

(51) 121

(52) 245

(53) 74814

(54) 651249

(55) 211210

(56) 264

(57) $\frac{145}{1728}$

(58) 5

(59) $\frac{94}{99}$

***(60)** $37333-41262$

(61) $\frac{21}{520}$

(62) 65

(63) $\frac{52}{33}$ or $1\frac{19}{33}$

(64) 120

(65) 164

(66) 1141

(67) $6\frac{3}{16}$

(68) 51

(69) -32

***(70)** $4156-4592$

(71) 120

(72) $65\frac{7}{9}$

(73) 51

(74) 8

(75) 143

(76) 4714

(77) 80808

(78) 1067

(79) 145

***(80)** $1782-1968$