1st Score: _____	2nd Score: _____	3rd Score: _____	
Grader: _____	Grader: _____	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
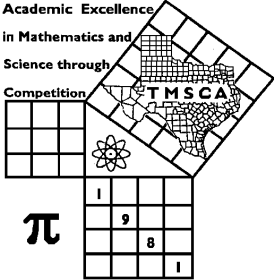
T M S C A   M I D D L E   S C H O O L

N U M B E R   S E N S E

T E S T   # 1 0 ©

F E B R U A R Y   4 ,   2 0 2 3

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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(1) $963 + 1060 =$ _____

(2) $1455 - 678 =$ _____

(3) $9.7 - 1.6 =$ _____ (decimal)

(4) $68 \times 75 =$ _____

(5) $4856 \div 8 =$ _____

(6) $35\% =$ _____ (fraction)

(7) $6 + 24 \div 6 + 2 \times 5 =$ _____

(8) $\dfrac{5}{8} - \dfrac{1}{3} =$ _____ (fraction)

(9) $17^2 =$ _____

*(10) $851 + 439 - 193 =$ _____

(11) $5\dfrac{1}{4} - 1\dfrac{3}{4} =$ _____ (mixed number)

(12) $4627 \div 9$ has a remainder of _____

(13) The sum of the prime numbers greater than 60 but less than 70 is _____

(14) $96 \times 92 =$ _____

(15) $39 \times 202 =$ _____

(16) 150 is what percent of 125? _____%

(17) The LCM of 15, 20 and 30 is _____

(18) $\dfrac{7}{12} \div \dfrac{35}{48} =$ _____

(19) 32 quarts = _____ gallons

*(20) $488 \times 88 =$ _____

(21) .5 miles = _____ feet

(22) The multiplicative inverse of 1.8 is _____

(23) $|4 - 13| + |6 - 14| + 7 =$ _____

(24) $109^2 =$ _____

(25) If $6^x = 2\dfrac{1}{6}$, then $6^{x+2} =$ _____

(26) If $A = \{1,2,4,6,8\}$ and $B = \{1,3,6,7\}$, then $A \cap B$ has how many elements? _____

(27) $\dfrac{13}{12} - \dfrac{12}{13} =$ _____ (fraction)

(28) $\left(\sqrt{196}\right)^3 =$ _____

(29) $1111_4 =$ _____ 10

*(30) $50731 \div 6.9 =$ _____

(31) The perimeter of a rectangle with a length of 15 is 78. The area = _____

(32) A heptagon has _____ distinct diagonals

(33) $32 \times 38 =$ _____

34) $0.5666\ldots =$ _____ (fraction)

(35) If $h(x) = x^2 - 8x + 16$, then $h(31) =$ _____

(36) $42^2 + 14^2 =$ _____

(37) 48% of 22 is 16% of _____

(38) $538 \times 111 =$ _____

(39) The number of the positive integral divisors of 63 is _____

*(40) $\sqrt{19654} =$ _____

(41) $(8x - 3)^2 = ax^2 + bx + c.$ $a + c =$ _____

(42) $57 \times 63 + 9 =$ _____

(43) The total surface area of a cube is 486 cm^2. The volume is _____ cm^3

(44) $\dfrac{5}{7}=$ _____ % (mixed number)

(45) The measure of an exterior angle of a regular octagon is _____ $^\circ$

(46) $S=\{2,5,10,17,26,37,m,n...\}$. $n=$ _____

(47) $96 \times 106=$ _____

(48) $1007 \times 1008=$ _____

(49) $334_5 + 243_5=$ _____ $_5$

*(50) $44 \times 50 \times 56=$ _____

(51) $0.24 \times 24=$ _____ (decimal)

(52) The hypotenuse of a right triangle with legs of 7 and 24 is _____

(53) $6\dfrac{3}{4} \times 8\dfrac{5}{6}=$ _____ (mixed number)

(54) $995^2=$ _____

(55) $0.5060606... =$ _____ (fraction)

(56) The slope of a line containing the points $(-6,1)$ and $(-2,9)$ is _____

(57) $68265 \div 111=$ _____

(58) $(21 \times 31 + 11) \div 8$ has a remainder of _____

(59) 42% of $366\dfrac{2}{3}=$ _____

*(60) $(.888) \times 6093=$ _____

(61) $(204)^3=$ _____

(62) If the vertex of the parabola $y=x^2-6x-2$ is (h,k), then $k=$ _____

(63) The 49th triangular number is _____

(64) $25 \times \dfrac{29}{33}=$ _____ (mixed number)

(65) If $8^{x+2}=576$, then $8^x=$ _____

(66) If $48^2-52^2=20k$, then $k=$ _____

(67) 55% of $80+6=$ _____

(68) If the diagonal of a square is $\sqrt{338}$ in, then the area is _____ in^2

(69) The first 4 digits of the decimal for $\dfrac{7}{45}$ is 0._____

*(70) 240 gallons = _____ fluid ounces

(71) A standard deck of cards is shuffled and one card is drawn. The probability of drawing a red king or black queen is _____

(72) A jar contains marbles: 8 red, 7 blue, and 9 green. The probability of drawing a green one is _____%

(73) $(6)^{-4}=$ _____

(74) If $f(x)=4x+1$, then $f\big(f(6)\big)=$ _____

(75) $\dfrac{5}{6}+\dfrac{5}{12}+\dfrac{5}{18}=$ _____

(76) The sum of the positive integral divisors of 56 is _____

(77) $\left(\dfrac{64}{729}\right)^{\frac{2}{3}}=$ _____

(78) The arithmetic sequence $5,10,15,20,25,...,75$ has _____ terms

(79) The smallest angle formed by the hands of a clock at 2:45 is _____ $^\circ$

*(80) $\sqrt{1344} \times \sqrt[3]{1344}=$ _____

22-23 TMSCA MSNS Test 10 Key

(1) 2023

(2) 777

(3) 8.1

(4) 5100

(5) 607

(6) $\dfrac{7}{20}$

(7) 20

(8) $\dfrac{7}{24}$

(9) 289

*(10) $1043-1151$

(11) $3\dfrac{1}{2}$

(12) 1

(13) 128

(14) 8832

(15) 7878

(16) 120

(17) 60

(18) $\dfrac{4}{5}$ or .8

(19) 8

*(20) $40797-45091$

(21) 2640

(22) $\dfrac{5}{9}$

(23) 24

(24) 11881

(25) 78

(26) 2

(27) $\dfrac{25}{156}$

(28) 2744

(29) 85

*(30) $6985-7719$

(31) 360

(32) 14

(33) 1216

(34) $\dfrac{17}{30}$

(35) 729

(36) 1960

(37) 66

(38) 59718

(39) 6

*(40) $134-147$

(41) 73

(42) 3600

(43) 729

(44) $71\dfrac{3}{7}$

(45) 45

(46) 65

(47) 10176

(48) 1015056

(49) 1132

*(50) $117040-129360$

(51) 5.76

(52) 25

(53) $59\dfrac{5}{8}$

(54) 990025

(55) $\dfrac{167}{330}$

(56) 2

(57) 615

(58) 6

(59) 154

*(60) $5141-5681$

(61) 8489664

(62) -11

(63) 1225

(64) $21\dfrac{32}{33}$

(65) 9

(66) -20

(67) 50

(68) 169

(69) 1555

*(70) $29184-32256$

(71) $\dfrac{1}{13}$

(72) $\dfrac{75}{2}, 37\dfrac{1}{2}, 37.5$

(73) $\dfrac{1}{1296}$

(74) 101

(75) $1\dfrac{19}{36}$ or $\dfrac{55}{36}$

(76) 120

(77) $\dfrac{16}{81}$

(78) 15

(79) $172.5, 172\dfrac{1}{2}, \dfrac{345}{2}$

*(80) $385-424$