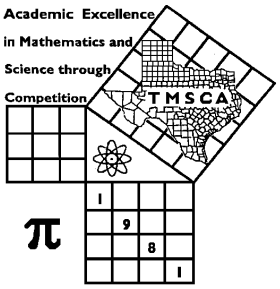
1st Score: _____ Grader: _____	2nd Score: _____ Grader: _____	3rd Score: _____ Grader: _____	**Final Score**

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

TEST#4©

NOVEMBER 7, 2020

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 Test 4

(1) $2020 + 2021 =$ _____

(2) $676 - 187 =$ _____

(3) $9 \times 10.1 =$ _____ (decimal)

(4) $3030 \div 5 =$ _____

(5) $\frac{4}{5} + \frac{7}{10} =$ _____ (mixed number)

(6) $294 \times 11 =$ _____

(7) $\frac{7}{8} =$ _____ (decimal)

(8) $14 \times 12 + 16 \times 12 =$ _____

(9) $75 \times 64 =$ _____

*(10) $1333 + 644 + 218 =$ _____

(11) $88\% =$ _____ (fraction)

(12) $21^2 =$ _____

(13) $5572 \div 9$ has a remainder of _____

(14) The mean of 44, 37, 46 and 41 is _____

(15) $57 \times 53 =$ _____

(16) $4\frac{2}{7} - 1\frac{5}{7} =$ _____

(17) The LCM of 45 and 20 is _____

(18) $3\frac{3}{5} \times 5\frac{2}{3} =$ _____ (mixed number)

(19) 22 is what percent of 88? _____%

*(20) $812 \times 30 \div 8 =$ _____

(21) $0.242424\ldots =$ _____ (fraction)

(22) The cube root of -216 is _____

(23) $222_8 =$ _____$_{10}$

(24) 20 pints = _____ gallons

(25) $32 \times 28 =$ _____

(26) $96^2 =$ _____

(27) $213 \times 14 =$ _____

(28) $12^3 =$ _____

(29) If $A = \{2, 3, 4, 5, 6\}$ and $B = \{2, 4, 6, 8, 10\}$, then $A \cap B$ has how many elements? _____

*(30) $296 \times 410 - 2008 =$ _____

(31) $109^2 =$ _____

(32) $39 \times 111 =$ _____

(33) If $\angle C$ and $\angle D$ are supplementary angles, and if $m\angle C = 124°$, then $m\angle D =$ _____°

(34) $\frac{20}{49} \div \frac{5}{7} =$ _____ (fraction)

(35) Find the smallest integer k, where $k > 1$, such that $5k + 7$ is a perfect cube _____

(36) The slope of the line $6x + 2y = 7$ is _____

(37) The number of prime divisors of 385 is _____

(38) $33^2 + 11^2 =$ _____

(39) $(43 \times 52 - 18) \div 8$ has a remainder of _____

*(40) $\sqrt{371} \times \sqrt{633} =$ _____

(41) 80 – 20% of 80 is _____

(42) If 4 pens cost \$8.24, then 9 pens cost \$_____

(43) If $9x+3=57$, then $x^2=$ _____

(44) The area of a circle with circumference = 32π cm is _____ π cm^2

(45) The smaller root of $(3x-1)^2=\frac{1}{9}$ is _____

(46) LXVI – XXXII = _____ (Arabic numeral)

(47) $444\times\frac{6}{37}=$ _____

(48) $39\times202=$ _____

(49) $0.045=$ _____ (fraction)

*(50) $\sqrt[3]{33333}=$ _____

(51) $409^2=$ _____

(52) $0.181818...+0.333...=$ _____ (fraction)

(53) $143\times63=$ _____

(54) $\frac{4}{5}\times\frac{7}{8}\times\frac{10}{21}=$ _____

(55) The area of an equilateral triangle with a side = 12 cm is _____ $\sqrt{3}$ cm^2

(56) $95\times102=$ _____

(57) How many 2-digit numbers end in a 4? ____

(58) The sum of all negative integers x such that $3x+3\geq-8$ is _____

(59) 18% of $133\frac{1}{3}=$ _____

*(60) $30\times35\times40=$ _____

(61) The fourth hexagonal number is _____

(62) $1432_5\times11_5=$ _____

(63) The simple interest on $500 at a rate of 4% for 3 years is $_____

(64) If $g(x)=2x^2-6x+12$, then $g(6)=$ _____

(65) $\frac{3}{4}+\frac{3}{16}+\frac{3}{64}=$ _____ (fraction)

(66) The odds of selecting a prime number from the set of digits is _____

(67) The first 4 digits of the decimal for $\frac{16}{33}$ is 0._____

(68) Two dice are rolled. The probability that the sum is greater than 9 is _____

(69) If $135_b=75$, then $45_b=$ _____

*(70) $22^4=$ _____

(71) $24^2-28^2+32^2-36^2=$ _____

(72) If $(111)(13)(k)=30303$, then k = _____

(73) If $x^2+y^2=113$, $x>y>0$ and both x and y are integers, then $x+y=$ _____

(74) The probability of randomly selecting a 3, 6 or 9 from a standard deck of cards is _____

(75) $S=\{0,3,8,15,24,35,48,m,...\}$ m = _____

(76) Two numbers have a sum of 30, a product of 216, and a positive difference of _____

(77) How many positive integers less than or equal to 90 are relatively prime to 90? _____

(78) The set $\{a,b,c,d,e,f,g\}$ has _____ proper subsets.

(79) $3.4888...=$ _____ (mixed number)

*(80) The volume of a cone with a diameter of 12 and a height of 9 is _____

2020-2021 TMSCA MSNS Tet 4 Key

(1) 4041

(2) 489

(3) 90.9

(4) 606

(5) $1\frac{1}{2}$

(6) 3234

(7) .875

(8) 360

(9) 4800

***(10) 2086 – 2304**

(11) $\frac{22}{25}$

(12) 441

(13) 1

(14) 42

(15) 3021

(16) $2\frac{4}{7}$ **or** $\frac{18}{7}$

(17) 180

(18) $20\frac{2}{5}$

(19) 25

***(20) 2893 – 3197**

(21) $\frac{8}{33}$

(22) –6

(23) 146

(24) $2\frac{1}{2}, 2.5, \frac{5}{2}$

(25) 896

(26) 9216

(27) 2982

(28) 1728

(29) 3

***(30)113385 - 125319**

(31) 11881

(32) 4329

(33) 56

(34) $\frac{4}{7}$

(35) 4

(36) –3

(37) 3

(38) 1210

(39) 2

***(40) 461 – 508**

(41) 64

(42) 18.54

(43) 36

(44) 256

(45) $\frac{2}{9}$

(46) 34

(47) 72

(48) 7878

(49) $\frac{9}{200}$

***(50) 31 – 33**

(51) 167281

(52) $\frac{17}{33}$

(53) 9009

(54) $\frac{1}{3}$

(55) 36

(56) 9690

(57) 9

(58) –6

(59) 24

***(60) 39900 – 44100**

(61) 28

(62) 21302

(63) 60.00

(64) 48

(65) $\frac{63}{64}$

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

(67) 4848

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

(69) 33

***(70)222544 - 245968**

(71) –480

(72) 21

(73) 15

(74) $\frac{3}{13}$

(75) 63

(76) 6

(77) 24

(78) 127

(79) $3\frac{22}{45}$

***(80) 323 – 356**