

1st Score: _____	2nd Score: _____	3rd Score: _____	Final Score
Grader: _____	Grader: _____	Grader: _____	
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
KICK-OFF TEST ©
2021 - 2022**

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.

[illegible]

2021-2022 TMSCA Middle School Number Sense Kick Off Test

(1) $772 + 228 =$ _____

(22) $8256 \times 11 =$ _____

(2) $479 - 389 =$ _____

(23) $47 \times 53 =$ _____

(3) $4248 \div 6 =$ _____

(24) $9^3 =$ _____

(4) $44 \times 25 =$ _____

(25) $0.636363... =$ _____ (fraction)

(5) $14^2 =$ _____

(26) 1 gallon + 1 quart = _____ pints

(6) $13 \times 16 + 7 \times 16 =$ _____

(27) $45 \times 55 =$ _____

(7) $1\frac{1}{2} + 3\frac{1}{3} =$ _____ (mixed number)

(28) A decagon has _____ sides

(8) $14.7 - 6.65 =$ _____ (decimal)

(29) $\frac{7}{16} - \frac{9}{16} =$ _____ (fraction)

(9) $38\% =$ _____ (fraction)

*(30) $\sqrt{396428} =$ _____

*(10) $682 + 94 + 513 =$ _____

(31) 62 base 10 = _____ base 5

(11) $95 \times 96 =$ _____

(32) If 7 abs cost \$7.56, then 9 abs cost \$_____

(12) $4\frac{3}{5} \times 4\frac{2}{5} =$ _____ (mixed number)

(33) $17^2 + 51^2 =$ _____

(13) $53 \times 57 =$ _____

34) 20% of 39 is 60% of _____

(14) The median of 22, 18, 24, 16 and 25 is _____

(35) The additive inverse of 0.666... is _____

(15) $46 \times 66 =$ _____

(36) The perimeter of a square with a diagonal of $48\sqrt{2}$ is _____

(16) The LCM of 20 and 25 is _____

(37) $212^\circ \text{F} =$ _____ $^\circ \text{C}$

(17) The mean of 22, 18, 24, 16 and 25 is _____

(38) $47^2 - 43^2 =$ _____

(18) $6\frac{3}{4} \times 8\frac{2}{3} =$ _____ (mixed number)

(39) The multiplicative inverse of 0.666 is _____

(19) $105 \times 107 =$ _____

*(40) $488 \times 316 =$ _____

*(20) $97531 \div 162 =$ _____

(41) $123_4 =$ _____ $_2$

(21) If Joe has 37 quarters, then he has \$_____

(42) 24% of $233\frac{1}{3} =$ _____

(43) $997 \times 995 =$ _____

(44) $97 \times 104 =$ _____

(45) The simple interest on \$1500 at a rate of 6% for 24 months is \$ _____

(46) $222 \times \frac{15}{37} =$ _____

(47) If $2x + y = 10$ and $5x - y = 11$, then $y =$ _____

(48) The slope of $7x - 5y = 9$ is _____

(49) $(12x + 3)^2 = ax^2 + bx + c$. $a + b + c =$ _____

*(50) $\sqrt[3]{128772} =$ _____

(51) $345678 \div 11$ has a remainder of _____

(52) The reciprocal of -3.8 is _____

(53) $753 \times 12 =$ _____

(54) How many positive integers less than 24 are relatively prime to 24? _____

(55) $0.5666... =$ _____ (fraction)

(56) The smaller root of $(2x + 1)^2 = \frac{1}{9}$ is _____

(57) $9 + 13 + 17 + 21 + 25 + ... + 69 =$ _____

(58) $3^{-3} + 3^{-2} + 3^{-1} =$ _____

(59) $(246_8) \times (5_8) =$ _____₈

*(60) $\sqrt{606} \times \sqrt{808} =$ _____

(61) $S = \{7, 10, 17, 27, 44, m, n, 186, ...\}$ $m + n =$ _____

(62) $(433_7) \div (5_7) =$ _____₇

(63) The distance between the points $(3, 10)$ and $(-3, 4)$ is k . $k^2 =$ _____

(64) If $f(x) = \frac{9x + 1}{8} + 6$, then $f^{-1}(-4) =$ _____

(65) $1008 \times 1004 =$ _____

(66) $9 \times \frac{11}{13} =$ _____ (mixed number)

(67) If $8^x = 15$, then $8^{x+2} =$ _____

(68) Two dice are rolled. The probability that the sum is 5 or 7 is _____

(69) If $f(x) = x^2 - 4x + 6$, then $f(f(2)) =$ _____

*(70) $\pi^3 \times e^3 =$ _____

(71) The first 4 digits of the decimal for $\frac{22}{45}$ is 0. _____

(72) If $(3367)(9)(k) = 121212$, then $k =$ _____

(73) $\frac{1}{6} + \frac{1}{12} + \frac{1}{20} =$ _____

(74) $16^3 - 15^3 =$ _____

(75) The volume of a cylinder with a diameter of 22 cm and a height of 11 cm is _____ π cm^3

(76) $51948 \div 111 =$ _____

(77) $(104)^3 =$ _____

(78) The smallest angle formed by the hands of a clock at 2:50 is _____ $^\circ$

(79) $7 + 10 + 17 + 27 + 44 + ... + 301 + 487 =$ _____

*(80) The perimeter of an equilateral triangle is 210 cm. The height of the triangle is _____ cm.

2021-2022 TMSCA MSNS Kick Off Test Key

(1) 1000	(22) 90816	(43) 992015	(63) 72
(2) 90	(23) 2491	(44) 10088	(64) -9
(3) 708	(24) 729	(45) 180.00	(65) 1012032
(4) 1100	(25) $\frac{7}{11}$	(46) 90	(66) $7\frac{8}{13}$
(5) 196	(26) 10	(47) 4	(67) 960
(6) 320	(27) 2475	(48) $\frac{7}{5}, 1\frac{2}{5}, 1.4$	(68) $\frac{5}{18}$
(7) $4\frac{5}{6}$	(28) 10	(49) 225	(69) 2
(8) 8.05	(29) $-\frac{1}{8}$	*(50) 48-53	*(70) 592-653
(9) $\frac{19}{50}$	*(30) 599-661	(51) 3	(71) 4888
*(10) 1225-1353	(31) 222	(52) $-\frac{5}{19}$	(72) 4
(11) 9120	(32) 9.72	(53) 9036	(73) $\frac{3}{10}$ or .3
(12) $20\frac{6}{25}$	(33) 2890	(54) 8	(74) 721
(13) 3021	(34) 13	(55) $\frac{17}{30}$	(75) 1331
(14) 22	(35) $-\frac{2}{3}$	(56) $-\frac{2}{3}$	(76) 468
(15) 3036	(36) 192	(57) 624	(77) 1124864
(16) 100	(37) 100	(58) $\frac{13}{27}$	(78) 145
(17) 21	(38) 360	(59) 1476	(79) 1265
(18) $58\frac{1}{2}$	(39) $\frac{3}{2}, 1\frac{1}{2}, 1.5$	*(60) 665-734	*(80) 58-63
(19) 11235	*(40) 146498-161918	(61) 186	
*(20) 572-632	(41) 11011	(62) 62	
(21) 9.25	(42) 56		