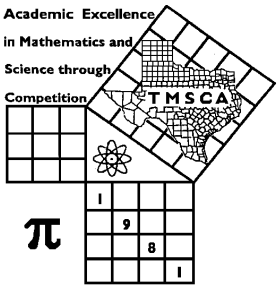
1st Score: _____ Grader: _____	2nd Score: _____ Grader: _____	3rd Score: _____ Grader: _____	**Final Score**

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 #5©

NOVEMBER 16, 2024

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 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.
12. **TEST SHOULD FLIP COMPLETELY OVER FOR PROBLEM #1.**

© *TMSCA* **2024**

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

(43) $\left(4\sqrt{2} \times 5\sqrt{2}\right)^2 =$ _____

(44) $286 \times 42 =$ _____

(45) A bag contains 4 red, 3 green and 13 blue balls. The probability of selecting two red balls without replacement is _____

(46) $92^2 =$ _____

(47) The smaller root of $(4x-1)^2 = \frac{4}{25}$ **is**_____

(48) The sum of the positive integral divisors of 40 is _____

(49) How many positive integers less than or equal to 40 are relatively prime to 40? _____

***(50)** $24 \times 26 \times 28 =$ _____

(51) $623_7 - 455_7 =$ _____$_7$

(52) $14 \times \frac{19}{21} =$ _____**(mixed number)**

(53) $8^{-1} + 5^{-1} =$ _____

(54) $\left(\frac{49}{64}\right)^{1.5} =$ _____

(55) $666 \times \frac{4}{37} =$ _____

(56) $(17 + 21 \times 15) \div 7$ **has a remainder of** ____

(57) $(505)^2 =$ _____

(58) How many integers between 35 and 60 are divisible by 6? _____

(59) $88\frac{8}{9}\%$ **of 63 is** _____

***(60)** $3\pi^4 \times e^2 =$ _____

(61) $991 \times 992 =$ _____

(62) The radius of the circle with equation $x^2 - 4x + y^2 + 6y = 131$ **is** _____

(63) $(0.41666\ldots)^{-2} =$ _____

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

(65) $5\frac{7}{8} \times 6\frac{1}{8} =$ _____**(mixed number)**

(66) The first 4 digits of the decimal for $\frac{19}{33}$ **are 0.**_____

(67) The leg opposite the $60°$ **angle in a right triangle is** $7\sqrt{3}$**. The sum of the other two sides of the triangle is** _____

(68) The sum of the negative integers x **such that** $3x + 6 \geq -12$ **is** _____

(69) The sum of the 22nd triangular number and the 23rd triangular number is _____

***(70)** $25 \times 35 \times 45 =$ _____

(71) The sum of the integral solutions of $|2x + 10| \leq 24$ **is** _____

(72) $(3345_6 \times 11_6) =$ _____$_6$

(73) $555 \times \frac{4}{27} =$ _____**(mixed number)**

(74) $5.0333\ldots =$ _____**(mixed number)**

(75) $3 + 5 + 8 + 13 + \cdots + 89 + 144 =$ _____

(76) $(3)(7)(13)(37)(5) =$ _____

(77) $3 + 9 + 15 + 21 + \cdots + 51 =$ _____

(78) $14\frac{2}{5} \times 10\frac{3}{7} =$ _____**(mixed number)**

(79) $\frac{14}{17} - \frac{43}{50} =$ _____

***(80) The surface area of a tetrahedron with edge of 6 cm is** _____cm^2

Copyright © 2025

2024-2025 TMSCA Middle School Number Sense Test 5

(1) $945 - 549 =$ _____

(2) $3.28 + 4.12 =$ _____(decimal)

(3) $42 \times \frac{4}{7} =$ _____

(4) $1234 \div 3$ has a remainder of _____

(5) $75 \times 44 =$ _____

(6) $65^2 =$ _____

(7) $91 \times 96 =$ _____

(8) $55 \times 16 =$ _____

(9) $73 \times 67 =$ _____

*(10) $1315 - 828 + 275 =$ _____

(11) $23 \times 10101 =$ _____

(12) A dodecagon has _____sides

(13) $\frac{5}{8} + \frac{2}{5} =$ _____(mixed number)

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

(15) $3\frac{2}{3} \times 12\frac{2}{3} =$ _____(mixed number)

(16) $5\frac{1}{5}\% =$ _____(fraction)

(17) $\frac{17}{40} =$ _____(decimal)

(18) $2141 \div 9 =$ _____(mixed number)

(19) $21 \times 85 + 21 \times 15 =$ _____

*(20) $525 \times 4.2 =$ _____

(21) $5^7 \times 2^4 =$ _____

(22) $|3x - 2| = 16, x < 0, \ x =$ _____

(23) 3 gallons + 2 pints = _____quarts

(24) $91_{10} =$ _____ base 9

(25) 3 ft^2 _____in^2

(26) The multiplicative inverse of 3.8 is _____

(27) $404 \times 18 =$ _____

(28) $27^2 - 29 =$ _____

(29) If $9^x = 2$, then $9^{x+2} =$ _____

*(30) $28474 \div 0.12 =$ _____

(31) $654_8 =$ _____ base 2

(32) $145^2 =$ _____

(33) If A = {2, 6, 14, 26, 42, a, 86}, then a = _____

(34) $\frac{5}{7} + \frac{5}{14} + \frac{5}{21} =$ _____

(35) If the area of a square is 196 cm^2, the perimeter is _____cm

(36) Two positive numbers have a sum of 25, a difference of 11 and a product of _____

(37) The product of the LCM and GCD of 35 and 42 is _____

(38) 15% of $366\frac{2}{3} =$ _____

(39) 4 is what % less than 16? _____

*(40) $\sqrt[3]{128395} =$ _____

(41) If $f(x) = 2x^2 - x + 5$ and P and Q are the roots of $f(x)$, then PQ + P + Q _____

(42) The distance between $(2, 7)$ and $(-6, 22) =$ _____

Copyright © 2025

24-25 TMSCA MSNS Test 5 Key

(1) 396

(2) 7.4

(3) 24

(4) 1

(5) 3300

(6) 4225

(7) 8736

(8) 880

(9) 4891

(10) $724 - 800$

(11) 232323

(12) 12

(13) $1\frac{1}{40}$

(14) $2\frac{9}{28}$

(15) $46\frac{4}{9}$

(16) $\frac{13}{250}$

(17) .425

(18) $237\frac{8}{9}$

(19) 2100

(20) $2095 - 2315$

(21) 1250000

(22) $-\frac{14}{3}, -4\frac{2}{3}$

(23) 13

(24) 111

(25) 432

(26) $\frac{5}{19}$

(27) 7272

(28) 700

(29) 162

(30) $225420 - 249147$

(31) 110101100

(32) 21025

(33) 62

(34) $\frac{55}{42}, 1\frac{13}{42}$

(35) 56

(36) 126

(37) 1470

(38) 55

(39) 75

(40) $48 - 52$

(41) 3

(42) 17

(43) 1600

(44) 12012

(45) $\frac{3}{95}$

(46) 8464

(47) .15, $\frac{3}{20}$

(48) 90

(49) 16

(50) $16599 - 18345$

(51) 135

(52) $12\frac{2}{3}$

(53) $\frac{13}{40}$, $.325$

(54) $\frac{343}{512}$

(55) 72

(56) 3

(57) 255025

(58) 4

(59) 56

(60) $2052 - 2267$

(61) 983072

(62) 12

(63) 5.76, $\frac{144}{25}, 5\frac{19}{25}$

(64) 120

(65) $35\frac{63}{64}$

(66) 5757

(67) 21

(68) -21

(69) 529

(70) $37407 - 41343$

(71) -125

(72) 41235

(73) $82\frac{2}{9}$

(74) $5\frac{1}{30}$

(75) 372

(76) 50505

(77) 243

(78) $150\frac{6}{35}$

(79) $-\frac{31}{850}$

(80) $60 - 65$

Copyright © 2025