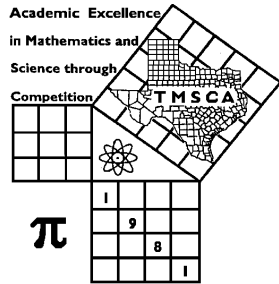


1st Score: _____ Grader: _____	2nd Score: _____ Grader: _____	3rd Score: _____ Grader: _____	Final Score
PLACE LABEL BELOW			
Name: _____ School: _____			
SS/ID Number: _____ City: _____			
Grade: 5 6 7 8 Classification: 1A 2A 3A 4A 5A 6A			



**TMSCA MIDDLE SCHOOL
NUMBER SENSE
TEST # 3 ©
NOVEMBER 4, 2017**

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.

2017 – 2018 TMSCA Middle School Number Sense Test #3

- (1) $1017 + 2018 + 3019 =$ _____
- (2) $73 \times 0.5 =$ _____ (decimal)
- (3) $9139 \div 13 =$ _____
- (4) $92 \times 25 =$ _____
- (5) $4 \times 7 \times 11 =$ _____
- (6) $98765 \div 4$ has a remainder of _____
- (7) $\frac{9}{11} - \frac{3}{4} =$ _____ (fraction)
- (8) $(7^2 + 1) \div (21 - 4 \times 4) =$ _____
- (9) $17^2 =$ _____
- *(10) $2017 - 1734 + 888 =$ _____
- (11) $27\frac{1}{2}\% =$ _____ (fraction)
- (12) $16\frac{2}{3} \times 72 =$ _____
- (13) $26 \times 34 =$ _____
- (14) $96 \times 91 =$ _____
- (15) $35^2 =$ _____
- (16) $34 \div 8 - 3 + 22 \div 8 =$ _____
- (17) Which is greater, $\frac{9}{17}$ or $\frac{7}{12}$? _____
- (18) $34 \times 2018 + 11 \times 2018 + 5 \times 2018 =$ _____
- (19) The smallest number greater than 50 that has a remainder of 2 when divided by 5 and 7 is _____
- *(20) $625 \times 881 =$ _____
- (21) $2.2 \times 35 =$ _____
- (22) $49 \times 16 =$ _____
- (23) $11227 = 103 \times$ _____
- (24) $17 \times 6\frac{3}{17} =$ _____
- (25) $0.1 + 0.3 + 0.5 + \dots + 4.3 =$ _____ (decimal)
- (26) There are _____ prime numbers less than 20
- (27) $47274 \div 9$ has a remainder of _____
- (28) $348 \times 111 =$ _____
- (29) $23^2 + 69^2 =$ _____
- *(30) $\sqrt{34612} =$ _____
- (31) The complement of angle _____ is 70° , its measure is _____ $^\circ$.
- (32) $15\frac{8}{9} = 3\frac{2}{3} \times$ _____ (mixed number)
- (33) 3 gallon + 2 quarts = _____ quarts
- (34) Find the LCM of 20 and 15. _____
- (35) If $12x - 15 = 105$, then $4x - 5 =$ _____
- (36) A rectangle has perimeter 42 and width 6. The area of the rectangle is _____
- (37) The diagonal of a rectangle with width 9 and length 12 is _____
- (38) If $x^3 = -64$, then $(x + 1)^2 =$ _____
- (39) $\sqrt{841} =$ _____
- *(40) 25% of $130^2 =$ _____
- (41) If $2x - 3 = 7x - 23$, then $x =$ _____
- (42) If $1 + 2 + 3 + \dots + 40 = 10k$, then $k =$ _____
- (43) Find the area of a trapezoid with bases of 12 and 16 and height 7. _____

- (44) $0.125 \times 960 =$ _____
- (45) If $3x - 2 = 18$, then $3x(3x + 1) =$ _____
- (46) The sum of the interior angles of a 20-sided polygon is _____^o.
- (47) If $3x - 4y = 17$ is perpendicular to $Ax + 3y = 11$, then $A =$ _____
- (48) How many distinct diagonals can be drawn inside an pentagon? _____
- (49) $113_{10} =$ _____₅
- *(50) $142857 \times 63 =$ _____
- (51) $23 \times \frac{25}{28} =$ _____ (mixed number)
- (52) The slope of the line $2x - 3.5y = 15$ is _____
- (53) The perimeter of a regular undecagon with side length 14 is _____
- (54) If $5! + 6! = k \times 4!$, then $k =$ _____
- (55) If $(3^2)^3 \times 27^2 = 3^k$, then $k =$ _____
- (56) The smallest integer solution of $x(x + 2) > 83$ is _____
- (57) $3\sqrt{24} \times 2\sqrt{6} =$ _____
- (58) If $y - 12 = 4(x + 2)$ has an x-intercept of _____
- (59) If $38 \times 43 = 40 \times 41 - n$, then $n =$ _____
- *(60) $(27^3 \div 6^3) \times 100 =$ _____
- (61) $54_8 \div 4_8 =$ _____₈
- (62) The product of the roots of $3x^2 - 18x - 40 = 0$ is _____
- (63) $0.5444... =$ _____ (fraction)
- (64) $64 \times 375 =$ _____
- (65) $5^2 - 10^2 + 25^2 = 5^2 (k)$. $k =$ _____
- (66) $1_7 + 2_7 + 3_7 + \dots + 12_7 =$ _____₇
- (67) If $f(x) = 2x^2 + 4$, then $f(13) - f(7) =$ _____
- (68) The probability of obtaining a sum greater than 10 when rolling a pair of dice is _____
- (69) If $\frac{a}{b} + \frac{b}{a} = 2\frac{9}{70}$, and a and b are relatively prime, then the sum of a and b is _____
- *(70) The surface area of a sphere with radius 25 is _____
- (71) $\frac{2 + 4 + 6 + \dots + 32}{2 + 4 + 6 + 8} =$ _____
- (72) P, Q, and R are roots of $f(x) = 4x^3 - 17x^2 + 23x - 11$, then $PQR =$ _____
- (73) If $f(x) = 3x^3 - 4x^2 + 5x + 1$, then $f(3) =$ _____
- (74) $997^2 =$ _____
- (75) The sum of the 8th and 9th triangular numbers is _____
- (76) The sum of the integral solutions of $|x - 4| \leq 11$ is _____
- (77) The discriminant of $2x^2 - 5x - 4 = 0$ is _____
- (78) If $\sqrt[4]{5x} = 3$, then $x =$ _____
- (79) If $4x + y = 35$ and $2x - y = 13$, then $x =$ _____
- *(80) 12 miles = _____ feet

2017-2018 TMSCA Middle School Number Sense Key #3

- | | | | |
|-----------------------|---------------------|--|--|
| (1) 6054 | (23) 109 | (44) 120 | (63) $\frac{49}{90}$ |
| (2) 36.5 | (24) 105 | (45) 420 | (64) 24000 |
| (3) 703 | (25) 48.4 | (46) 3240 | (65) 22 |
| (4) 2300 | (26) 8 | (47) 4 | (66) 63 |
| (5) 308 | (27) 6 | (48) 5 | (67) 240 |
| (6) 1 | (28) 38628 | (49) 423 | (68) $\frac{1}{12}$ |
| (7) $\frac{3}{44}$ | (29) 5290 | *(50) 8549992–9449990 | (69) 17 |
| (8) 10 | *(30) 177 – 195 | (51) $20\frac{15}{28}$ | *(70) 7462 – 8246 |
| (9) 289 | (31) 20 | (52) $\frac{4}{7}$ | (71) $13\frac{3}{5}, \frac{68}{5}, 13.6$ |
| *(10) 1113 – 1229 | (32) $4\frac{1}{3}$ | (53) 154 | (72) $2\frac{3}{4}, \frac{11}{4}, 2.75$ |
| (11) $\frac{11}{40}$ | (33) 14 | (54) 35 | (73) 61 |
| (12) 1200 | (34) 60 | (55) 12 | (74) 994009 |
| (13) 884 | (35) 35 | (56) 9 | (75) 81 |
| (14) 8736 | (36) 90 | (57) 72 | (76) 92 |
| (15) 1225 | (37) 15 | (58) – 5 | (77) 57 |
| (16) 4 | (38) 9 | (59) 6 | (78) $16\frac{1}{5}, \frac{81}{5}, 16.2$ |
| (17) $\frac{7}{12}$ | (39) 29 | *(60) 8657 – 9568 | (79) 8 |
| (18) 100900 | *(40) 4014 – 4436 | (61) 13 | *(80) 60192 – 66528 |
| (19) 72 | (41) 4 | (62) $-13\frac{1}{3}$ or $-\frac{40}{3}$ | |
| *(20) 523094 – 578156 | (42) 82 | | |
| (21) 77 | (43) 98 | | |
| (22) 784 | | | |