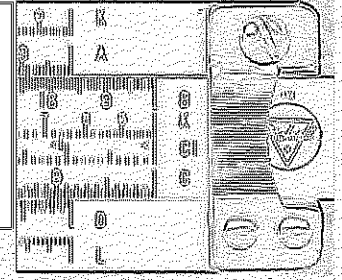
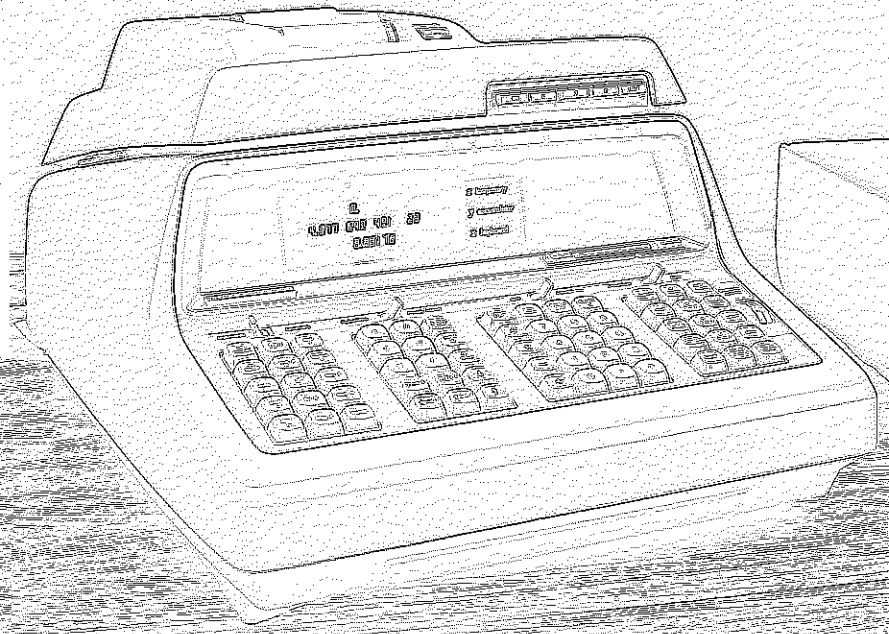
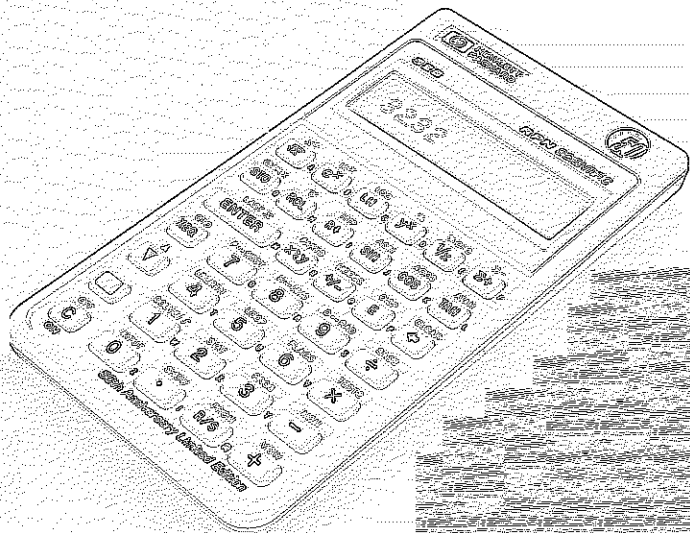
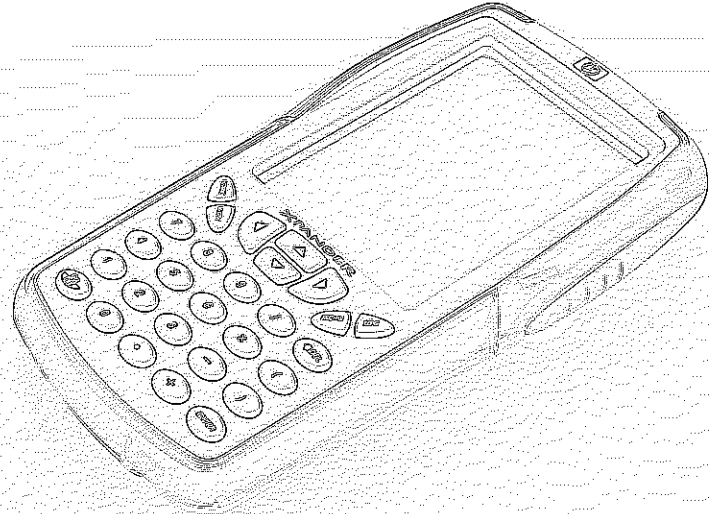
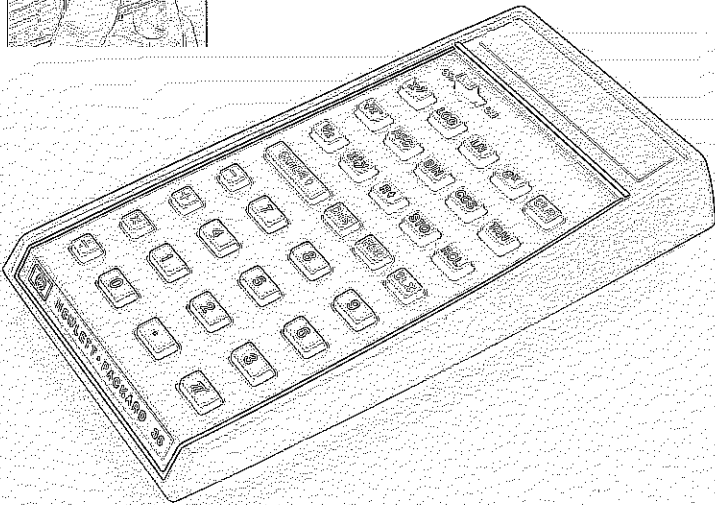
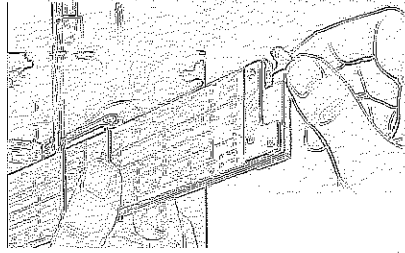
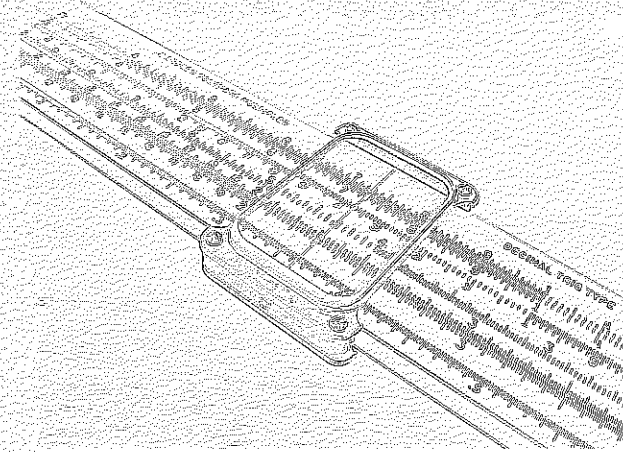
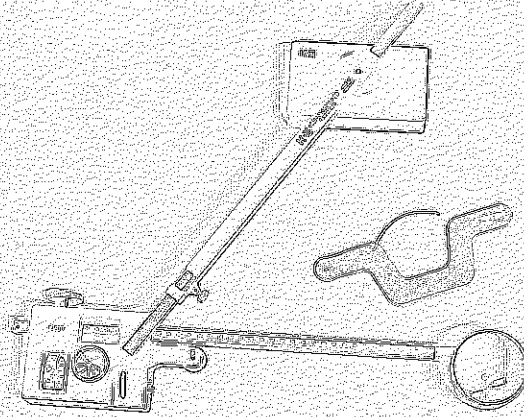
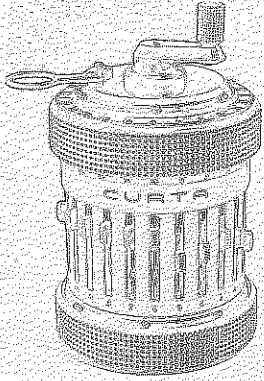


Texas Competitive Mathematics
Web - <http://www.texasmath.org>
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E-Mail - webmaster@texasmath.org



**1975-76 UIL Number Sense
(14 pages)**



The University of Texas Interscholastic League

Number Sense Test, Series II-1

Contestant's Number.....

Contestant's Score.....

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Stop—Wait for Signal

- | | |
|---|--|
| <p>(1) $587 + 246 + 175 =$</p> <p>(2) $8096 - 3562 =$</p> <p>(3) $1092 - 573 - 281 =$</p> <p>(4) $3\frac{3}{4} + 8\frac{7}{10} =$</p> <p>(5) $23^2 =$</p> <p>(6) $10 + 11 + 12 + 13 + 14 + 15 =$</p> <p>(7) $58 \times 68 =$</p> <p>(8) $17(26) + 34(17) =$</p> <p>(9) $4752 \div 12 =$</p> <p>* (10) $3285 + 4762 + 253 =$</p> <p>(11) 38% of 250 is</p> <p>(12) $\sqrt{1156} =$</p> <p>(13) $17\% - 9\% =$</p> <p>(14) $819 \times 11 =$</p> <p>(15) The interest on \$750 for one year at $8\frac{1}{2}\%$ is \$</p> <p>(16) The greatest common divisor of 94 and 141 is</p> <p>(17) $9\frac{6}{7} \times 5\frac{6}{7} =$</p> <p>(18) $29.13 - 8.76 =$</p> <p>(19) The average of 97, 84, 26 and 77 is</p> <p>* (20) $61^3 - 81 =$</p> <p>(21) Change 623, base seven, to base ten.</p> <p>(22) If $2x - 7 = 8 - 3x$, $x =$</p> <p>(23) The smaller of .18 and $\frac{2}{13}$ is</p> <p>(24) The sum of the distinct prime divisors of 300 is</p> <p>(25) Eight jars, each containing $1\frac{1}{2}$ quarts = gallons.</p> <p>(26) If $12\frac{1}{2}$ pesos equals one dollar, 90 pesos = \$</p> <p>(27) If the area of an equilateral triangle with side 8 is in simplified form, $a\sqrt{b}$, then $a =$</p> | <p>(28) $9^3 =$</p> <p>(29) $9.8 \div .07 =$</p> <p>* (30) $40040 \div 154 =$</p> <p>(31) If the height of a right circular cone is 12 and its diameter is 8, its volume is $b\pi$ and b is</p> <p>(32) The median of 17, 11, 19, 24, 27 and 23 is</p> <p>(33) The negative reciprocal of $-2\frac{2}{3}$ is</p> <p>(34) If one inch equals 2.54 centimeters, 600 inches = cm.</p> <p>(35) If $\frac{2x}{3} - \frac{2}{3} \leq 5 - \frac{3x}{4}$, the largest value of x is</p> <p>(36) Five roads connect two towns. How many different round trips can be made between the two towns?</p> <p>(37) The distance between the points (1, -2) and (5, -3) is \sqrt{a} and $a =$</p> <p>(38) $9^3 \times 3^4 = 3^n$ and $n =$</p> <p>(39) If any student can be president in a class of 21 boys and 15 girls, what is the probability the president will be a boy?</p> <p>* (40) $475 \times 680 =$</p> <p>(41) $65^2 =$</p> <p>(42) If a code is composed of two distinct letters, how many different codes can be given?</p> <p>(43) The mode of 9, 12, 17, 4, 5, 12, 4, 9, 3, 12 is</p> <p>(44) $(156_{\text{seven}}) \div (6_{\text{seven}}) =$_{seven}</p> <p>(45) If $f(t) = 3t - 2t^2 + 1$, $f(-2) =$</p> <p>(46) The product of the roots of $3x^2 - \frac{7x}{8} + 3 = 0$ is</p> <p>(47) If $f(x, y) = y^2 - 2x^2$, $f(4, 3) =$</p> <p>(48) Write the value of the repeating decimal .00531 as a fraction.</p> <p>(49) $\frac{1}{2}$ of 5 yds. 7 ft. = ft.</p> |
|---|--|

- * (50) $\sqrt{213444} - 2 =$
- (51) The slope of the line containing the points (3, -2) and (5, 2) is
- (52) If $\frac{2}{x} = \frac{x}{8}$ and $x^3 = x^2 + 48$, $x =$
- (53) If the perimeter of a square is $8\sqrt{2}$, its area is
- (54) If angle A and angle B are supplementary, and $m \angle A = 82$, then $m \angle B =$
- (55) The remainder when 4158 is divided by eleven is
- (56) $-4(56 - 83) \div 3 =$
- (57) If $\log_x 64 = 3$, $x =$
- (58) What are the odds of obtaining a six if one die is tossed?
- (59) $\cos\left(-\frac{7\pi}{6}\right) =$
- * (60) $4^7 - 4 =$
- (61) A class consists of 3 boys and 5 girls. In how many ways can they be seated in a row if both end seats are occupied by girls?
- (62) How many committees of 4 people can be formed from a group of 10 people?
- (63) The domain of the relation $\{(1, 2), (-1, 3), (-6, 2)\}$ is $\{ \dots \}$
- (64) The circumference of a circle whose area is 15π is (in simplified form) $a\pi\sqrt{b}$ and $b =$
- (65) $(i - 3)^2 = a + bi$, $b =$
- (66) The slope of a line parallel to $\frac{3y}{4} - \frac{3x}{2} = 5$ is
- (67) The sum of the coefficients in the expansion of $(3a - 5b)^3$ is
- (68) Change 0.41, base five, to a decimal in base ten.
- (69) If x varies directly with y and $x = 5$ when $y = 3$, find y when $x = 55$
- * (70) $(128 \times 207 \div 96) + 4 =$
- (71) If $f(x) = \frac{1}{x} - |2x + 3|$, $f(-1) =$
- (72) The coefficient of the x^9y term in the expansion of $(2x^2 - y)^4$ is
- (73) Evaluate the determinant $A = \begin{vmatrix} 1 & 4 \\ 2 & -1 \end{vmatrix}$;
- (74) If $f(x) = 4 - 3x$, the inverse function $f^{-1}(x) = ax + b$ and $a =$
- (75) The remainder when $f(x) = -2x^4 + 3x^3 - 4x + 2$ is divided by $x - 1$ is
- (76) $\lim_{x \rightarrow 3} \frac{x - 3}{x^2 - 9} =$
- (77) The slope of the line tangent to $y = 5x^3 - 3$ at the point (2, 37) is
- (78) $\int_{-2}^1 8x^3 dx =$
- (79) If $H(x) = 3x^2 - 2$, $F(x) = 2$, $H(F(x)) =$
- * (80) $20 \times 21 \times 22 \times 23 =$

The University of Texas Interscholastic League

Number Sense Test, Series II-2

Contestant's Number.....

Contestant's Score.....

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Stop—Wait for Signal

- | | |
|---|---|
| <p>(1) $8084 + 7913 + 89 =$</p> <p>(2) $5126 - 697 =$</p> <p>(3) $4203 + 691 - 3697 =$</p> <p>(4) $19 \times 32 =$</p> <p>(5) $7\% \times 9\% =$</p> <p>(6) $15 + 16 + 17 + 18 + 19 =$</p> <p>(7) $26^2 =$</p> <p>(8) 26% of 150 =</p> <p>(9) $19(32) + 18(19) =$</p> <p>* (10) $276 + 1388 + 299 + 137 =$</p> <p>(11) $3549 \div 13 =$</p> <p>(12) The least common multiple of 60, 18 and 42 is</p> <p>(13) $\sqrt{324} =$</p> <p>(14) $18 \frac{2}{7} - 8\% =$</p> <p>(15) $(6.4 \times 10^3) \div (1.6 \times 10^2) =$</p> <p>(16) Change 47, base ten, to base three. three</p> <p>(17) $728 \times 11 =$</p> <p>(18) The median of 33, 42, 65, 54, 79 is</p> <p>(19) $40.25 - 18.86 =$</p> <p>* (20) $5^6 - 25 =$</p> <p>(21) If a 6 oz. package of cheese sells for 69¢, at the same rate, $1\frac{1}{2}$ pounds will cost \$</p> <p>(22) $16^2 - 3^3 =$</p> <p>(23) The product of the distinct prime divisors of 198 is</p> <p>(24) Change 143, base eight, to base ten. ten</p> <p>(25) If 1 centimeter equals 0.39 inches, 117 inches = cm.</p> <p>(26) The smaller of .26 and $\frac{13}{49}$ is</p> <p>(27) If $\frac{x}{5} - 4 = \frac{3}{5} - 2x$, $x =$</p> <p>(28) The area of a rhombus with sides 9 and height 5 is</p> | <p>(29) If $12\frac{1}{2}$ pesos equals one dollar, 250 pesos = \$</p> <p>* (30) $280 \times 352 =$</p> <p>(31) $(453_{six}) - (245_{six}) =$ six</p> <p>(32) How many three-digit numbers can be formed using only the numerals {1, 2, 3, 4, 5} if repetition in any integer of digits is not allowed?</p> <p>(33) If $f(x) = \frac{4x}{3} - 2x^2$, $f(-3) =$</p> <p>(34) The average of 23, 46, 52 and 35 is</p> <p>(35) The distance between the points (2, -3) and (6, 2) is \sqrt{a}, $a =$</p> <p>(36) The reciprocal of 4% is</p> <p>(37) If $y^2 \geq 25$ and $y < 0$, the largest value of y is</p> <p>(38) A trio of three singers is formed from 6 altos, 7 sopranos and 3 tenors. If the trio must have one alto, one soprano and one tenor, how many different trios are possible?</p> <p>(39) The volume of a sphere with radius 6 is $b\pi$ and $b =$</p> <p>* (40) $28 \times 29 \times 30 \times 31 =$</p> <p>(41) Solve for x: $y - x - 1 = 0$
$2y + x + 4 = 0$; $x =$</p> <p>(42) $(85)^2 =$</p> <p>(43) Write the value of the repeating decimal $\overline{.213}$ as a fraction.</p> <p>(44) $\frac{1}{4}$ of 5 yd. 8 in. is in.</p> <p>(45) The remainder when 4521 is divided by 9 is</p> <p>(46) If $\frac{2}{3} = \frac{3}{x-2}$, $x =$</p> <p>(47) If an 8 oz. package of pasta sells for 59¢, at the same rate, $1\frac{1}{2}$ pounds will cost \$</p> <p>(48) The mode of 2, 1, 3, 4, 2, 3, 5, 2, 3, 2, 5 is</p> <p>(49) The slope of the line containing the points $(\frac{1}{2}, 2)$ and $(3, -\frac{1}{2})$ is</p> |
|---|---|

- * (50) $65884 + 256631 + 185 =$
- (51) The sum of the roots of $\frac{4x^2}{5} - 3x + \frac{2}{3} = 0$ is
- (52) If the area of a square is 121, its perimeter is
- (53) How many committees of 3 people can be formed from a group of 9 people?
- (54) If angle A has measure 20 in degrees, and angle B is a right angle, find the ratio of the measure of angle A to the measure of angle B.
- (55) If $\log_4(x - 3) = 2$, $x =$
- (56) If the odds that it will rain are 4 to 7, find the probability that it will rain.
- (57) $5(97 - 138) =$
- (58) $(4^2)^3 \times 2^5 = 2^n$ and $n =$
- (59) $\sin\left(\frac{-3\pi}{4}\right) =$
- * (60) $2^9 - 3^3 + 3 \times 5 =$
- (61) If $f(a, b) = |a - b|$, $f(-2, 1) =$
- (62) The range of the relation $\{(-1, -2), (2, 3), (0, 0), (5, 3)\}$ is {.....}
- (63) $(i - 5)(6 + i) = a + bi$ and $a =$
- (64) The slope of a line perpendicular to $\frac{x}{5} - y = 6$ is
- (65) Change 0.24, base ten, to a decimal in base five. five
- (66) Find the probability that the sum of the faces is not seven when two dice are tossed.
- (67) If x and y vary inversely and $x = 3$ when $y = 4$, find x when $y = 2$
- (68) The sum of the coefficients in the expansion of $(2x - 6b)^4 =$
- (69) The coefficient of the a^2b^6 term in the expansion of $(3a + b^2)^5$ is
- * (70) $(254058 \div 483) - 6 =$
- (71) Change 32, base five, to base three. three
- (72) If $f(x) = 2x^2 - 3x$ and $g(x) = -1$, $f(g(x)) =$
- (73) Evaluate the determinant $A = \begin{vmatrix} 1 & 5 & -2 \\ -3 & & 4 \end{vmatrix}$; $=$
- (74) $\lim_{x \rightarrow 5} \frac{2x^2 - 7x - 15}{x - 5} =$
- (75) The slope of the line tangent to $y = -5x^2 + 3x + 2$ at the point $(1, 0)$ is
- (76) The remainder when $f(x) = 3x^6 - 2x^4 + 3x^3 - 1$ is divided by $x + 1$ is
- (77) If $f(x) = 3x/4 - 2$, the inverse function $f^{-1}(x) = ax + b$ and $a =$
- (78) $\int_{-1}^2 3x^2 dx =$
- (79) If the matrix $A = [-1, 2, 0]$ and the matrix $B = \begin{bmatrix} 3 \\ -1 \\ 2 \end{bmatrix}$, $AB =$
- * (80) $\sqrt{153664} + 8 =$

The University of Texas Interscholastic League

Number Sense Test, Series II-3

Contestant's Number.....

Contestant's Score.....

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Stop—Wait for Signal

- | | |
|---|--|
| (1) $4212 - 958 =$ | (27) Multiply 134, base six, by 4, base six. six |
| (2) $2341 + 7895 =$ | (28) The smaller of $\frac{2}{17}$ and $.12$ is |
| (3) $692 \times 71 =$ | (29) What is the base of a triangle if its altitude is 6 and its area is 42? |
| (4) $798 \div 38 =$ | * (30) 740 sq. ft. = sq. in. |
| (5) $\frac{1}{2} \times \frac{3}{8} \div \frac{3}{2} =$ | (31) If $12\frac{1}{2}$ pesos equals one dollar, 290 pesos = \$..... |
| (6) $62\frac{1}{2}\%$ of 288 = | (32) Find the average of 138, 156 and 123. |
| (7) $5\frac{4}{9} + 3\% =$ | (33) $5604 + 8913 + 6728 =$ |
| (8) $\sqrt{1681} =$ | (34) Solve for x: $x + 2y = 3$
$2x + z = 1$
$y + z = 0$; x = |
| (9) $22 \times 19 + 19 \times 8 =$ | (35) If $g(x) = \frac{5x}{2} + 3x^2$, $g(-2) =$ |
| * (10) $56633 + 6885 + 333482 =$ | (36) What is the area of a square whose perimeter is 34? |
| (11) How much money did I borrow if the interest is \$6.80 on a 180-day note at $8\frac{1}{2}\%$? \$ | (37) The number of positive prime divisors of 298 is |
| (12) $74 \times 58 =$ | (38) If $\log_2 4x = 5$, x = |
| (13) The least common multiple of 480 and 800 is | (39) $(163_{\text{seven}}) - (65_{\text{seven}}) =$ seven |
| (14) $32^2 =$ | * (40) $40 \times 50 \times 60 \times 70 =$ |
| (15) $8\% \times 7\% =$ | (41) Write $.267$ as a common fraction. |
| (16) Change 53, base ten, to base five. five | (42) The distance between the points $(\frac{1}{2}, 2)$ and $(1, \frac{3}{2})$ is in simplified form $a\sqrt{b}$, and a = |
| (17) The average of 186, 284 and 190 is | (43) How many different 4-digit positive integers can be formed that end with 3? |
| (18) $756 \times 11 =$ | (44) $\frac{3}{4}$ degree = a π radians and a = |
| (19) $\frac{3}{8} \times 1\frac{1}{4} \div 1\frac{5}{16} =$ | (45) $(95)^2 =$ |
| * (20) $948 \times 356 - 8 =$ | (46) If $\frac{(x-2)^3 x^5}{x^4} = x^a$, a = |
| (21) If three items cost \$8.07, at the same rate, 4 items will cost \$ | (47) The remainder when 8421 is divided by 11 is |
| (22) Change 76, base nine, to base five. five | (48) Change 101110011, base two, to base eight. eight |
| (23) If $\frac{3x}{7} + 1 = x - 3$, x = | (49) $4\frac{1}{2}$ times four feet 8 inches = ft. |
| (24) If 80 kph is the same speed as 50 mph, how many mph is 216 kph? mph | * (50) $(43230 \div 55) - 6 =$ |
| (25) $2^{10} =$ | |
| (26) What is the sum of the roots of $3x - 2 - x^2 = 0$? | |

- (51) Find the positive number which is 30 less than its own square.
- (52) The slope of the line containing the points $(-\frac{3}{8}, 3)$ and $(2, -1)$ is
- (53) Find the probability that exactly two heads will turn up when three coins are tossed.
- (54) $\cos \frac{-3\pi}{2} =$
- (55) The domain of the relations $\{(1, -\frac{3}{8}), (3, 4), (-\frac{1}{2}, 2), (4, 1)\}$ is{.....}
- (56) The circumference of a circle with radius 7 is $a\pi$ and $a =$
- (57) The measure in degrees of one of two complementary angles is 12 less than twice the measure of the other. The measure in degrees of the smaller angle is
- (58) $\log_3(x - 2) + \log_3 x = \log_3 8, x =$
- (59) Determine the number of different ways two different vegetables can be selected if six vegetables are available in the cafeteria?
- * (60) $\sqrt{230400} =$
- (61) If $\frac{a}{17}$ gives a remainder of 8, and $\frac{b}{17}$ gives a remainder of 7, the remainder for $\frac{ab}{17}$ is
- (62) If $\cos A > 0, \cos(\arcsin \frac{-\sqrt{3}}{2}) =$
- (63) If $f(x) = |x - 2x^3 + 5|, f(-\frac{1}{2}) =$
- (64) $(2 - 3i)(1 - i) = a + bi$ and $a =$
- (65) What are the odds that the sum of the faces is 8 when two dice are tossed?
- (66) The sum of the coefficients in the binomial expansion of $(3x - 5y)^4$ is
- (67) The slope of a line parallel to $\frac{-5x}{8} + \frac{2y}{5} = 3$ is
- (68) If x and y vary directly and $x = 5$ when $y = 6$, find y when $x = 25$
- (69) Change .12, base four, to a decimal in base ten.
- * (70) $4^8 + 2^2 =$
- (71) The coefficient of the x^6y^2 term in the expansion of $(2x^2 - 3y^2)^4$ is
- (72) Evaluate the determinant $A = \begin{vmatrix} \frac{1}{2} & -\frac{3}{8} \\ 3 & -4 \end{vmatrix} =$
- (73) $845 + (43 \times 22) - 91 =$
- (74) If $g(x) = \frac{2x}{3} - 4$ and $g^{-1}(x) = ax + b, b =$
- (75) The slope of the line tangent to $y = 2x^3 - 3x + 4$ at the point $(-2, -6)$ is
- (76) The remainder when $h(x) = x^4 - 2x^3 + 3x - 4$ is divided by $(x + 2)$ is
- (77) $\sum_{i=1}^4 (3 - i) =$
- (78) $\int_{-1}^1 x^4 dx =$
- (79) If the matrix $A = [2, \frac{1}{2}, 1]$ and the matrix $B = \begin{vmatrix} -3 \\ 4 \\ 2 \end{vmatrix}, AB =$
- (80) How many ten-letter words, real or imaginary, can be constructed using the letter "d, o, l, l, o, l, l, e, r, s"?

The University of Texas Interscholastic League

Number Sense Test, Series II-4

Contestant's Number.....

Contestant's Score.....

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Stop—Wait for Signal

- | | |
|--|--|
| <p>(1) $3472 + 8929 =$</p> <p>(2) $2105 - 438 =$</p> <p>(3) $1487 + 2619 - 547 =$</p> <p>(4) $528 \times 61 =$</p> <p>(5) $3/50 + .304 + 5.7\% =$ (decimal).</p> <p>(6) $1058 \div 46 =$</p> <p>(7) $\sqrt{1089} =$</p> <p>(8) $2\% + 3/16 - 1\frac{1}{4} =$</p> <p>(9) $99\frac{1}{9}\%$ of 4500 =</p> <p>* (10) $5678 + 88883 + 64219 =$</p> <p>(11) $33 \times 17 + 17 \times 7 =$</p> <p>(12) The median of 376, 427, 392 and 400 is</p> <p>(13) $37 \times 64 =$</p> <p>(14) The greatest common divisor of 72, 140 and 128 is</p> <p>(15) $43^2 =$</p> <p>(16) $10\% \times 5\% =$</p> <p>(17) Change 1201, base three, to base ten.</p> <p>(18) $11 \times 927 =$</p> <p>(19) $(9.6 \times 10^4) \div (16 \times 10^3) =$</p> <p>* (20) $(397 \times 543) + 9 =$</p> <p>(21) If \$488 was repaid for a 4-month note at 5% interest, what amount was borrowed? \$.....</p> <p>(22) If 2 pounds of sugar costs \$5.34, at the same rate, 5 pounds will cost \$.....</p> <p>(23) Change 132, base five, to base seven. seven</p> <p>(24) If $\frac{3x}{5} + 2 = 2x + 1$, $x =$</p> <p>(25) What is the product of the roots of $5x - 3x^2 = \frac{3}{4}$?</p> <p>(26) 96 oz. = pounds.</p> | <p>(27) The largest prime factor of 282 is</p> <p>(28) $31.06 + 2.91 - .467$ is</p> <p>(29) What is the probability of obtaining at least two tails when three coins are tossed?</p> <p>* (30) $(34386 \div 66) - 1 =$</p> <p>(31) The average of 137, 248 and 194 is</p> <p>(32) In how many different ways can 2 co-captains be selected from a team of 11 football players?</p> <p>(33) Find the smaller of two integers whose sum is 55 and whose difference is 9.</p> <p>(34) Find the slope of the line $4x + \frac{2y}{3} = 7$.</p> <p>(35) $\sqrt{20x^8} \cdot \sqrt{30x^7} = a\sqrt{b}$ and $b =$</p> <p>(36) $(203_{\text{nine}}) - (75_{\text{nine}}) =$ nine</p> <p>(37) If the area of a trapezoid is 54, the altitude is 9 and one side is 5, the other side is</p> <p>(38) The larger of $8/25$ and $5/14$ is</p> <p>(39) If $12\frac{1}{2}$ pesos equals one dollar, 360 pesos = \$.....</p> <p>* (40) $5^8 - 5^2 =$</p> <p>(41) If $h(x) = 2x^2 - \frac{3x}{5} - 2$, $h(-5) =$</p> <p>(42) If $\log_4(3x - 5) = 4$, $x =$</p> <p>(43) Write the value of $.03\overline{4}$ as a common fraction.</p> <p>(44) What is the probability of drawing a queen if one card is drawn from deck of 52 cards?</p> <p>(45) The distance between the points $(\frac{1}{8}, \frac{3}{8})$ and $(-3, \frac{1}{2})$ is in simplified form $a\sqrt{b}$ and $b =$</p> <p>(46) If $f(x) = 2x - 3 + 10$, $f(-\frac{3}{4}) =$</p> |
|--|--|

- (47) Solve for y : $3x - 2y = 4$
 $x + y = -2$, $y =$
- (48) The slope of the line containing the points $(-5, 3)$ and $(2, 7)$
 is
- (49) The remainder when 10278 is divided by 3 is
- * (50) $\sqrt{409600} =$
- (51) If $(4^7 \times 8^{-3}) \div (2^3)^2 = 2^n$, $n =$
- (52) The range of the relation $\{(\frac{1}{2}, 1), (-2, 1), (3, 1), (4, 1)\} =$
 $\{ \dots \}$
- (53) How many different 5-letter words, real or imaginary, can
 be constructed using the letters "G, A, G, G, E"?
- (54) Find the radius of a right circular cylinder whose volume
 is 320π and height is 5.
- (55) If $0 < \arcsin \frac{\sqrt{3}}{2} < \frac{\pi}{2}$, $\cos[\arcsin \frac{\sqrt{3}}{2} + \pi] =$
- (56) Change 1101101001, base two, to base four.four
- (57) How many different arrangements of two books on a shelf
 can be made if four books are available?
- (58) $(432_{six}) \times (4_{six}) =$ six
- (59) If 1 kilogram equals $2\frac{1}{2}$ pounds, 385 pounds = kilograms.
- * (60) 50 sq. yd. = sq. in.
- (61) Find the largest value of x such that $x^2 - 5x + 6 \leq 0$
- (62) Solve the following equation in a modulo 6 system; with
 $0 \leq x < 6$, $4x + 5 = 1$. $x =$
- (63) If $\frac{a}{13}$ has a remainder of 12, and $\frac{b}{13}$ has a remainder of 7,
 the remainder for $\frac{ab}{13}$ is
- (64) The sum of the coefficients in the binomial expansion of
 $(\frac{1}{2}x - 3y)^4$ is
- (65) $(2 - i)^3 = a + bi$ and $b =$
- (66) What are the odds that the sum of the faces is ten when two
 dice are tossed?
- (67) The surface area of a cube with edge 9 cm. is sq. cm.
- (68) The volume of the cube is cu. cm.
- (69) The slope of a line perpendicular to $\frac{4x}{3} + \frac{2y}{9} = 4$ is
- * (70) $60 \times 61 \times 62 =$
- (71) Change .12, base ten, to a decimal in base five.five
- (72) If x and y vary indirectly and $y = -2$ when $x = 3$, find x
 when $y = 6$
- (73) The coefficient of the a^3b^4 term in the expansion of $(3a + 3b^2)^5$
 is
- (74) Evaluate the determinant $B = \begin{vmatrix} \frac{2}{5} & 1 \\ 5 & 9 \end{vmatrix} =$
- (75) If $f(x) = 3x^3 - 4x^2 + 2$ and $g(x) = \frac{1}{2}f[g(x)] =$
- (76) The slope of the line tangent to $y = 4x^3 - 3x^2 + 2$ at the
 point $(-1, -5)$ is
- (77) The remainder when $t(x) = 2x^2 - 4x^3 + 3x - 2$ is divided
 by $(x + 1)$ is
- (78) $\int_{-2}^2 4x^3 dx =$
- (79) If $g(x) = \frac{3}{7} - \frac{4x}{7}$, the inverse function $g^{-1}(x) = ax + b$
 and $a =$
- * (80) $\sum_{i=0}^8 (i^2 + 4) =$

The University of Texas Interscholastic League

Number Sense Test, Series II-5

Contestant's Number.....

Contestant's Score.....

**Read Directions Carefully
Before Beginning Test**

**Do not Unfold This Sheet
Until Told to Begin**

Directions: Do not turn this page until person conducting this test gives the signal to begin. This is a ten-minute test. There are 80 problems. Solve accurately and quickly as many as you can in the order in which they appear. **ALL PROBLEMS ARE TO BE SOLVED MENTALLY.** Make no calculations with paper and pencil. Write only the answer in the space provided at the end of each problem. Problems marked with a star (*) require only approximate answers; any answer to a starred problem that is within five per cent of the exact answer will be scored correct; all other problems require exact answers.

Person conducting contest should explain these directions carefully to the contestants.

Stop—Wait for Signal

- | | |
|--|---|
| <p>(1) $38892 + 89747 =$</p> <p>(2) $5021 - 3894 =$</p> <p>(3) $17 \times 59 =$</p> <p>(4) $13 \frac{3}{14} + 19 \frac{5}{12} =$</p> <p>(5) $374 - 857 + 924 =$</p> <p>(6) $912 \div 38 =$</p> <p>(7) $4.76 + 9/40 + 58.2\% =$ (decimal).</p> <p>(8) 104 pounds = oz.</p> <p>(9) $12 \times 73 + 6 \times 134 =$</p> <p>* (10) $12357 + 69587 + 354896 =$</p> <p>(11) $4\frac{1}{2} + 6\frac{1}{2} =$</p> <p>(12) The next number in the sequence 1, 5, 8, 12, 15, 19, 22, ... is</p> <p>(13) $13\% - 8\frac{1}{2}\% =$</p> <p>(14) $\sqrt{1444} =$</p> <p>(15) The average of 369, 287 and 337 is</p> <p>(16) A pair of shoes costs \$9.80 plus a 5% sales tax. The total cost is \$</p> <p>(17) 95^2 is</p> <p>(18) Change 92, base ten, to base four. four.</p> <p>(19) If 2 lbs. of beans costs 79¢, at the same rate, 24 lbs. will cost \$</p> <p>* (20) $809 \times 556 - 4 =$</p> <p>(21) $17\% \times 7\% =$</p> <p>(22) If 1 gram equals .04 oz., 9600 grams = lbs.</p> <p>(23) $632 \times 111 =$</p> <p>(24) If the altitude of an equilateral triangle is 10, its area in simplified form is $a\sqrt{b}$ and $a =$</p> <p>(25) $(362_{\text{eight}}) + (537_{\text{eight}}) =$ eight.</p> <p>(26) $8^3 =$</p> | <p>(27) A man had 30 hens; a dog killed five of them and 10 were carried off by a fox; he sold the remainder for \$1.50 each, and divided the money equally among 9 children; how much did each child receive? \$.....</p> <p>(28) $48^2 =$</p> <p>(29) The smaller of .73 and $16/23$ is</p> <p>* (30) $\sqrt{672400} =$</p> <p>(31) The remainder when 978120 is divided by 11 is</p> <p>(32) Write the value of $\overline{.141}$ as a common fraction.</p> <p>(33) The product of the distinct prime divisors of 396 is</p> <p>(34) If $12\frac{1}{2}$ pesos equals one dollar, 415 pesos = \$.....</p> <p>(35) How many different signals can be made by arranging in order on a vertical staff not more than two flags if 9 different flags are available?</p> <p>(36) Find the least common multiple of 28, 84, and 70.</p> <p>(37) $\sqrt{2475} = a\sqrt{b}$ and $b =$</p> <p>(38) The distance between the points $(\frac{1}{2}, 1)$ and $(1, \frac{1}{2})$ is in simplified form, $a\sqrt{b}$ and $b =$</p> <p>(39) If $\frac{7x}{8} - \frac{3}{4} = 2x$, $x =$</p> <p>* (40) $19^4 - 1 =$</p> <p>(41) $\frac{1}{27} + \frac{1}{81} =$
$\frac{1}{3} - \frac{1}{9}$</p> <p>(42) If $h(x) = -3x^2 + 4x + \frac{5x}{2}$, $h(-2) =$</p> <p>(43) Find the slope of the line $\frac{3y}{2} + 9x = \%$.</p> <p>(44) Find k so that the solution set will contain only one element, $x^2 - 6x - k = 0$.</p> |
|--|---|

- (45) If $\frac{a}{19}$ has a remainder of 12 and $\frac{b}{19}$ has a remainder of 10,
then the remainder of $\frac{ab}{19}$ is
- (46) $(352_{\text{seven}}) \times (5_{\text{seven}}) = \dots\dots\dots$ seven
- (47) If $A + B = 6$
 $C + B = 1$
 $A + C = -1$, $B = \dots\dots\dots$
- (48) 2 hrs. 40 min. =
- (49) How many different subsets that contain 5 elements can be selected from a set of 8 elements?
- * (50) $13680 \div 95 - 4 = \dots\dots\dots$
- (51) If $\log(x + 1) - \log x = \log 3$, $x = \dots\dots\dots$
- (52) Find the smaller of two numbers whose sum is 92 and whose difference is 10.
- (53) If the volume of a right circular cone is 75π and its radius is 5, its height is
- (54) When two dice are tossed what is the probability that the difference of the faces is 4?
- (55) The slope of the line containing the points $(\frac{1}{8}, 1)$ and $(\frac{1}{4}, -1)$ is
- (56) If $(5^3)^4 \times 25^{-2} \div 5^4 = 5^n$, $n = \dots\dots\dots$
- (57) If 1 kilogram equals $2\frac{1}{8}$ pounds, 220 pounds =
- (58) Find the largest value of x for which $x^2 + \frac{x}{2} - 3 \leq 0$
- (59) Two adjacent complementary angles have measures of a and b . Find the measure of the angle whose sides are rays that bisect the given angles.
- * (60) $70 \times 71 \times 72 = \dots\dots\dots$
- (61) $\tan\left(\frac{-3\pi}{4}\right) = \dots\dots\dots$
- (62) If $(2 + i)^3 = a + bi$, $b = \dots\dots\dots$
- (63) What are the odds that at least 1 head will turn up when three coins are tossed?
- (64) The sum of the coefficients in the binomial expansion of $\left(\frac{3x^2}{4} - \frac{2y}{3}\right)^2$ is
- (65) If x varies directly with y and $x = 12$ when $y = 15$, find x when $y = 40$
- (66) The coefficient of the x^2y term in the expansion of $(4x - y)^3$ is
- (67) The slope of a line perpendicular to $\frac{15y}{2} + \frac{3x}{8} = 2$ is
- (68) Change .68, base ten, to a decimal in base five.
- (69) $\lim_{x \rightarrow 1} \frac{3 - 2x - x^2}{x - 1} = \dots\dots\dots$
- * (70) 40 sq. yd. =
- (71) Solve the following equation in a modulo 6 system; with $0 \leq x < 7$, $3 - 2x = 5$ and $x = \dots\dots\dots$
- (72) Evaluate the determinant $A = \begin{vmatrix} 2/3 & -4 \\ 5/2 & 9 \end{vmatrix} = \dots\dots\dots$
- (73) $\sum_{i=-2}^2 (i^2 - 3) = \dots\dots\dots$
- (74) Change 11010110001, base two, to base eight.
- (75) The slope of the line tangent to $y = \frac{2}{3}x^6 - x^3$ at the point $(1, -\frac{1}{3})$ is
- (76) If $f(x) = \frac{2x}{7} - 6$ and $f^{-1}(x) = ax + b$, $b = \dots\dots\dots$
- (77) $\sin\left(\arccos \frac{1}{2} + \frac{\pi}{2}\right) = \dots\dots\dots$
- (78) The remainder when $t(x) = 2x^3 - 3x^4 - x^2 + 4$ is divided by $(x - 2)$ is
- (79) $\int_1^2 (5x^4 - 2) dx = \dots\dots\dots$
- * (80) $(37 \times 86) - (5 \times 32) + (2 \times 39) = \dots\dots\dots$

The University of Texas Interscholastic League

Number Sense Test, Series II-6

Contestant's Number.....

Contestant's Score.....

Directions: Do not turn this page until person conducting this test gives the signal to begin. This is a ten-minute test. There are 80 problems. Solve accurately and quickly as many as you can in the order in which they appear. ALL PROBLEMS ARE TO BE SOLVED MENTALLY. Make no calculations with paper and pencil. Write only the answer in the space provided at the end of each problem. Problems marked with a star (*) require only approximate answers; any answer to a starred problem that is within five per cent of the exact answer will be scored correct; all other problems require exact answers.

Person conducting contest should explain these directions carefully to the contestants.

**Read Directions Carefully
Before Beginning Test**

**Do not Unfold This Sheet
Until Told to Begin**

Stop—Wait for Signal

- (1) $9814 + 4396 =$
- (2) $1701 - 655 =$
- (3) $9\% + 14\% =$
- (4) $61 \times 28 =$
- (5) $7012 + 3421 - 795 =$
- (6) $57^2 =$
- (7) $16(83) + 8(34) =$
- (8) $23 + 25 + 27 + 29 + 31 =$
- (9) $52 \times 72 =$
- * (10) $22259 + 6687 + 9514 =$
- (11) $\sqrt{1089} =$
- (12) The greatest common divisor of 165 and 135 is
- (13) $17\% \times 3\% =$
- (14) Change 235, base six, to base ten.
- (15) If 28 oz. of liquid detergent sells for 70¢, at the same rate
64 oz. will sell for \$
- (16) $7/6 + 5/4 + 8\% =$
- (17) The median of 227, 198, 190, 250 and 200 is
- (18) $247 \times 11 =$
- (19) $14\% - 3.6 =$
- * (20) $932 \times 542 - 4 =$
- (21) If 1 gram equals .04 oz., 5 lbs. = grams.
- (22) $(8.26 \times 10^5) \div (3.5 \times 10^8) =$
- (23) 38 is what per cent of 400? %.
- (24) $25010 \div 82 =$
- (25) If $4/9 = \frac{2}{x-3}$, $x =$
- (26) A restaurant serves three soups, four salads and five different meats. How many different choices of 1 soup, 1 salad and 1 meat for a dinner does one have?
- (27) If the diagonal of one face of a cube is 5, its surface area is
- (28) Its volume in simplified form is $a\sqrt{b}$ and $a =$
- (29) The distance between the points (6, %) and (3, 1) is $a\sqrt{b}$ and $b =$
- * (30) $21224 \div 56 + 1 =$
- (31) Find the largest prime number whose square is less than 500.
- (32) If $6.32 + 5.16 + n = 0.34 - n$, $n =$
- (33) $\sqrt{5200} = a\sqrt{b}$ and $b =$
- (34) Write the value of $\sqrt{.477}$ as a common fraction.
- (35) The average of 536, 482 and 497 is
- (36) If 80 kph is the same speed as 50 mph, how many kph is 275 mph? kph.
- (37) If $x + y = 1$
 $x + z = 0$
 $2y + 2z = 1$, $y =$
- (38) The larger of .23 and $3/13$ is
- (39) Change 147, base eight, to base five. five.
- * (40) 2006400 ft. = miles.
- (41) A 14-foot ladder leans against a building in such a way that it forms a 30° angle with the ground. How high up on the building does the ladder reach? ft.
- (42) Find the largest value of x such that $2 + \frac{7x}{3} - x^2 \geq 0$
- (43) The slope of the line $\frac{4y}{7} + \frac{x}{3} = -1$ is
- (44) The remainder when 24016 is divided by 9 is

- (45) The product of the roots of $\frac{3}{5}x^2 - \frac{4}{3}x + 6 = 0$ is
- (46) Find a positive number which is 12 less than its square.
- (47) If $g(x) = 3|x - 2x^2| - 4x$, $g(3) =$
- (48) If the odds that a horse will win are 7 to 4, what is the probability that the horse will win?
- (49) $(221_{\text{three}}) \times (2_{\text{three}}) =$ three
- * (50) $\sqrt{462400} =$
- (51) Find the center of the circle with equation $x^2 - 3x + y^2 + \frac{1}{2}y = 5$ (.....,.....)
- (52) How many different subsets that contain 4 elements can be selected from a set of 9 elements?
- (53) The slope of the line containing the points $(\frac{1}{6}, \frac{2}{3})$ and $(-1, 1)$ is
- (54) Find the smaller of two numbers whose sum is 120 and whose difference is 30.
- (55) $\frac{(3 \cdot 10^2)^{-3} (9 \cdot 10^{-1})^2}{(3 \cdot 10^8)^{-1}} =$
- (56) If 1 gram equals .04 oz., 8 pounds = grams.
- (57) The domain of the relation $\{(\frac{1}{2}, 1), (2, -1), (\frac{2}{3}, 2), (1, -2)\}$ is {.....}
- (58) If $\log_5 (3x + 4) = 2$, $x =$
- (59) How many different 3-digit numbers can be constructed using the digits {4, 5, 6, 7, 8} without repetition of the digits?
- * (60) $58^3 + 8 =$
- (61) If $(-2 + 3i)(7 - 6i) = a + bi$, $a =$
- (62) If the volume of a right circular cone is 324π and its radius is 9, its height is
- (63) $\csc\left(\frac{-23\pi}{6}\right) =$
- (64) Change .44, base ten, to base five. five
- (65) The sum of the coefficients in the expansion of $(7y^2 - 4x)^4$ is
- (66) If x and y vary indirectly and $x = 10$ when $y = 15$, find x when y is 27.
- (67) Solve the following equation in a modulo 9 system; with $0 \leq x < 9$, $5x + 2 = 1$. $x =$
- (68) How many different 7-letter words, real or imaginary, can be constructed using the letters "b, a, b, b, l, e, d"?
- (69) $381 \times 111 =$
- * (70) $80 \times 90 \times 99 =$
- (71) The measure in degrees of one of two supplementary angles is 60 less than three times the measure of the other angle. The measure in degrees of the smaller angle is
- (72) $\lim_{x \rightarrow -2} \frac{2 - 7x - 4x^2}{x + 2} =$
- (73) The slope of the line tangent to the curve $y = 3 - 4x^2 + 3x^3$ at the point $(2, 11)$ is
- (74) The remainder when $h(x) = 6 - 3x^2 + x^3 - x^4$ is divided by $(x - 2)$ is
- (75) If $H(x) = 2x^4 - 3x^2$ and $F(x) = \frac{1}{2}$, $H(F(x)) =$
- (76) Evaluate the determinant $A = \begin{vmatrix} 8 & 2 \\ 1 & 16 \end{vmatrix} =$
- (77) If $f(x) = \frac{5}{8} - \frac{2x}{5}$ and $f^{-1}(x) = ax + b$, $b =$
- (78) Change 273, base eight, to base two. two
- (79) $\int_{-2}^0 (4x - 3x^2) dx =$
- * (80) $\sum_{k=0}^9 (2k^2 + 3) =$

The University of Texas Interscholastic League

Note: If error is found in this key, grading should be done by correct answer. The state office will appreciate a report of any error found.

Key to Number Sense Contest II-1	Key to Number Sense Contest II-2	Key to Number Sense Contest II-3	Key to Number Sense Contest II-4	Key to Number Sense Contest II-5	Key to Number Sense Contest II-6
1. 1008	1. 16086	1. 3254	1. 12401	1. 128639	1. 14210
2. 4534	2. 4429	2. 10236	2. 1667	2. 1127	2. 1046
3. 238	3. 1197	3. 49132	3. 3559	3. 1003	3. 24 7/15 or 367/15
4. 12 9/20 or 249/20	4. 608	4. 21	4. 32208	4. 32 53/84	4. 1708
5. 529	5. 69 9/64	5. 7/15	5. 421	5. 441	5. 9638
6. 75	6. 85	6. 180	6. 23	6. 24	6. 3249
7. 3944	7. 676	7. 8 59/72 or 635/72	7. 33	7. 5.567	7. 1600
8. 1020	8. 39	8. 41	8. 1 9/16 or 25/16	8. 1664	8. 135
9. 396	9. 960	9. 570	9. 4460	9. 1680	9. 3744
*10. 7885-8715	*10. 1995-2205	*10. 377150-416850	*10. 150841-166719	*10. 414998-458682	*10. 36537-40383
11. 95	11. 273	11. \$160.00	11. 680	11. 10 5/6	11. 33
12. 34	12. 1260	12. 4292	12. 396	12. 26	12. 15
13. 8 1/40 or 321/40	13. 18	13. 2400	13. 2368	13. 5 3/10 or 5.3	13. 59 4/25 or 1479/25
14. 9009	14. 9 24/35 or 339/35	14. 1024	14. 4	14. 38	14. 95
15. 863.75	15. 40	15. 65 9/25 or 1634/25	15. 1849	15. 331	15. \$1.60
16. 47	16. 1202	16. 203	16. 60 4/9 or 544/9	16. \$10.29	16. 11 1/12 or 133/12
17. 57 36/49 or 2829/49	17. 8008	17. 220	17. 46	17. 9025	17. 200
18. 20.37	18. 54	18. 8316	18. 10197	18. 1130	18. 2717
19. 71	19. 21.39	19. 5/6	19. 6	19. 99.48	19. 10.8 or 10 4/5
*20. 215555-238245	*20. 14820-16380	*20. 320606-354354	*20. 204801-226359	*20. 427310-472290	*20. 479883-530397
21. 311	21. \$2.76	21. \$10.76	21. \$480	21. 128 9/64	21. 2000 grams
22. 3	22. 229	22. 234	22. \$13.35	22. 24 lbs.	22. 236
23. 2/13	23. 66	23. 7	23. 60	23. 9 1/2% or 9.5%	23. 9 1/2% or 9.5%
24. 10	24. 99	24. 5/7	24. 5/7	23. 70152	24. 305
25. 3 gal.	25. 300	24. 135 mph	25. 1/5	24. 100/3	25. 15/2 or 7 1/2 or 7.5
26. \$7.20	26. .26 or 13/50	25. 1024	26. 6 lbs.	25. 1121	26. 60
27. 16	27. 23/11 or 2 1/11	26. 3	27. 47	26. 512	27. 75
28. 729	28. 45	27. 1024	28. 33.503	27. \$2.50	28. 125/4 or 31 1/4
29. 140	29. \$20.00	28. 2/17	29. 1/2	28. 2304	29. 26
*30. 247-273	*30. 93632-103488	29. 14	*30. 494-546	29. 16/23	*30. 361-399
31. 64	31. 204	30. 101232-111888	31. 193	*30. 779-861	31. 19
32. 21	32. 60	31. \$23.20	32. 55	31. 0	32. -5.57
33. 3/8	33. -22	32. 139	33. 23	32. 47/333	33. 13
34. 1524 cm.	34. 39	33. 21245	34. -6	33. 66	34. 53/111
35. 4	35. 41	34. 1	35. 6	34. \$33.20	35. 505
36. 25	36. 5/22	35. 7	36. 117	35. 81	36. 440 kph
37. 17	37. -5	36. 289/4 or 72 1/4	37. 7	36. 420	37. 3/4
38. 10	38. 126	37. 2	38. 5/14	37. 11	38. 3/13
39. 7/12	39. 288	38. 8	39. \$28.80	38. 29	39. 403
*40. 306850-339150	*40. 717402-72918	39. 65	*40. 371070-410130	39. -2/3	*40. 361-399 miles
41. 4225	41. -2	40. 798000-8820000	41. 51	40. 123804-136836	41. 7 ft.
42. 650	42. 7225	41. 89/333	42. 87	41. 2/9	42. 3
43. 12	43. 71/333	42. 1/2	43. 17/495	42. 15	43. -7/12
44. 21	44. 47 in.	43. 900	44. 1/13	43. -6	44. 4
45. -13	45. 3	44. 1/270	45. 401	44. -9	45. 10
46. 1	46. 13/2 or 6 1/2	45. 9025	46. 29/2 or 14 1/2	45. 6	46. 4
47. -23	47. \$1.77	46. 3	47. -2	46. 2453	47. 33
48. 59/11100	48. 2	47. 6	48. 4/7	47. 4	48. 7/11
49. 11 ft.	49. -1	48. 563	49. 0	48. 9600 sec.	49. 1212
*50. 437-483	*50. 306565-338835	49. 21 ft.	*50. 608-672	49. 56	three
51. 4/3 or 1 1/3	51. 15/4 or 3 3/4	50. 741-819	51. -1	*50. 133-147	*50. 646-714
52. 2	52. 44	51. 6	52. {1}	51. 1/2	51. (3/2, -1/4)
53. 8	53. 84	52. -3/2 or -1 1/2	53. 20	52. 126	52. 126
54. 98	54. 2/9	53. 3/8	54. 8	53. -2/7	53. -2/7
55. 0	55. 19	54. 0	55. -1/2	53. 9	54. 45
56. 36	56. 4/11	55. (-1/2, 1, 3/4)	56. 31221	54. 1/9	55. 9
57. 4	57. -205	56. 14	57. 12	55. -16	56. 3200 grams
58. 1/5	58. 17	57. 34	58. 2512	56. 4	57. {1/2, 2/3, 1, 2}
59. $\frac{1+\sqrt{3}}{2}$	59. $\frac{-1+\sqrt{2}}{2}$	58. 4	59. 175 kg	57. 100 kg	58. 7
*60. 15561-17199	*60. 475-525	59. 15	*60. 61560-68040	58. 3/2 or 1 1/2 or 1.5	59. 60
61. 14400	61. 3	60. 456-504	61. 3	59. 45 or 70/4	*60. 185364-204876
62. 210	62. {-2, 0, 3}	61. 5	62. 5	61. 1	61. 4
63. {-6, -1, 1}	63. -31	62. 1/2	63. 6	62. 11	62. 12
64. 15	64. -5	63. 4 3/4 or 19/4	64. 625/16 or 39 1/16	63. 7 or 7 to 1	63. 2
65. -6	65. .11	64. -1	65. -11	64. 1/144	64. .21
66. 2	66. 5/6	65. 5/31	66. 1/11	65. 32	five
67. -8	67. 6	66. 16	67. 486 sq. cm.	66. -48	65. 81
68. 84	68. 256	67. 25/16 or 1 9/16	68. 729 cu. cm.	67. 20	66. 50/9 or 5 5/9
69. 33	69. 90	68. 30	69. 1/6	68. .32	67. 7
*70. 266-294	*70. 494-546	69. 375	*70. 215574-238266	69. -4	68. 840
71. -2	71. 122	*70. 62263-68817	71. .03	*70. 49248-54432	69. 42291
72. -32	72. 5	71. -96	72. -1	71. 60	*70. 677160-748440
73. -9	73. 14	72. 0	73. 2430	72. 5	71. 60
74. -1/3	74. 13	73. 1700	74. 1	72. 9	72. 9
75. -1	75. -7	74. 6	75. 1 3/8 or 11/8	72. 16	73. 20
76. 1/6	76. -3	75. 21	76. 18	73. -5	73. 20
77. 60	77. 4/3 or 1 1/3	76. 22	77. 1	74. 3261	74. -14
78. -30	78. 9	77. 2	78. 0	75. 1	75. -5/8
79. 10	79. -5	78. 2/5	79. -2	76. 21	76. 4
*80. 201894-223146	*80. 380-420	79. -2	*80. 71820-79380	77. 1/2	77. 25/16 or 1 9/16
				78. -32	78. 10111011
				79. 29	79. -16
				*80. 2945-3255	*80. 570-630