

**The University Interscholastic League**  
**Number Sense Test, Series XX-4**

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 the 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 (\*) require approximate integral 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.

The person conducting this contest should explain these directions to the contestants.

**Stop - Wait for Signal!**

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| <p>(1) <math>1991 \times 3 =</math> _____</p> <p>(2) <math>8 \times 7\frac{7}{8} =</math> _____</p> <p>(3) <math>4\frac{1}{8} - 1\frac{1}{4} =</math> _____</p> <p>(4) <math>74^2 =</math> _____</p> <p>(5) <math>445 \div 9 =</math> _____ (mixed number).</p> <p>(6) <math>7\frac{7}{8} \times 24 =</math> _____</p> <p>(7) <math>48 \div 2 \times 12 \div 6 =</math> _____</p> <p>(8) <math>12 \times 34 =</math> _____</p> <p>(9) <math>24.4 \div \frac{2}{3} =</math> _____ (decimal).</p> <p>* (10) <math>298 \times 497 =</math> _____</p> <p>(11) <math>\frac{1}{33}</math> of a gallon = _____ cubic inches.</p> <p>(12) <math>(33 \times 8\frac{2}{3}) - (66 \times 2\frac{2}{3}) =</math> _____</p> <p>(13) 77 is one and three-fourths of what number? _____</p> <p>(14) <math>(14.4 \times 10^4) \div (.24 \times 10^2) =</math> _____</p> <p>(15) <math>\sqrt{841} =</math> _____</p> <p>(16) <math>37\frac{1}{2}</math> is what percent of <math>62\frac{1}{2}</math>? _____ %.</p> <p>(17) <math>12\frac{3}{4} \times 12\frac{1}{4} =</math> _____ (mixed number).</p> <p>(18) <math>\frac{17}{2(5^3)} =</math> _____ (decimal).</p> | <p>(19) Which is smallest, <math>\frac{11}{16}</math>, <math>.66</math>, <math>\frac{13}{18}</math>? _____</p> <p>* (20) <math>\sqrt{96800} + 400 =</math> _____</p> <p>(21) 45% of 30% of a number is 135. What is the number?<br/>     _____</p> <p>(22) <math>(8\frac{3}{4} \times 8\frac{3}{4}) - (6\frac{1}{4} \times 6\frac{1}{4}) =</math> _____</p> <p>(23) Adding <math>37\frac{1}{2}\%</math> of a number to the number is equivalent to multiplying the number by _____</p> <p>(24) The GCD of 36, 20 and 72 is _____</p> <p>(25) An employee receives a 5% cut in salary and now earns \$1710 a month. How much did he earn before the cut?<br/>     \$ _____</p> <p>(26) Find the average of 48, 36, 52 and 74. _____</p> <p>(27) The number half way between -14 and 36 is _____</p> <p>(28) <math>72 \times 78 =</math> _____</p> <p>(29) <math>54 \div</math> _____ <math>10 \cdot</math></p> <p>* (30) <math>445258 \div 814 =</math> _____</p> <p>(31) The largest root of <math>x^2 - x - 42 = 0</math> is _____</p> <p>(32) <math>.0324324324\dots =</math> _____ (fraction).</p> <p>(33) <math>48^2 - 42^2 = (3)</math> _____</p> <p>(34) Find x if <math>\frac{2}{x} = z^2 + y</math> when <math>y = -3</math> and <math>z = 4</math>. _____</p> <p>(35) The area of an isosceles triangle with sides 8, 8 and 10 is _____</p> |
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