

Skyview Invitational Games for Mathematical Achievement
Mental Math – 2005 ROUND 1

Name _____

Correct _____x5=_____
Skipped _____x1=_____
Score: _____
Verify: _____

Division (circle one) Mu Alpha Theta

**DO NOT UNFOLD THIS SHEET
UNTIL TOLD TO BEGIN**

Directions: Do not turn this page until the proctor gives the signal to begin. This is a 8 minute test with 40 problems. ALL PROBLEMS MUST BE SOLVED MENTALLY. No calculations with pen and paper may be made. Write ONLY THE ANSWER in the space provided. No erasures may be made to an answer once written. Use a pen with blue or black ink. All problems require exact answers. Fractional answers may be given as improper fractions, mixed numbers, or exact decimals unless otherwise specified.

You will receive 5 points for every correct answer, 1 points for each question skipped, and 0 points for each incorrect question. Proceed accurately and quickly.

Stop. Wait for signal to begin

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|--|--|
| <p>1) $1999 * 5 + 41 =$ _____</p> <p>2) $153 - 351 =$ _____</p> <p>3) $11 * 173 =$ _____</p> <p>4) $24 * 15 + 15 * 6 =$ _____</p> <p>5) 16 % of 90 = (decimal) _____</p> <p>6) $27^2 =$ _____</p> <p>7) .58 =(fraction) _____</p> <p>8) $317 \div 9 =$ (mixed number) _____</p> <p>9) $3\frac{1}{3} \div 2\frac{1}{2} =$ (mixed number) _____</p> <p>10) $15^2 =$ _____</p> <p>11) If 4 apples cost 71 cents, then one dozen apples cost (decimal) \$ _____</p> <p>12) CDXXIV = (Arabic Numeral) _____</p> <p>13) The GCD of 56 and 98 is _____</p> <p>14) $\frac{2}{7} =$ (mixed number percentage) _____ %</p> <p>15) Find the cost of driving 77 miles at 75 cents per mile (decimal, round to the cent). _____</p> <p>16) Mean of 25, 26, 36 is _____</p> <p>17) Which is larger, $\frac{6}{17}$ or $\frac{10}{29}$? _____</p> <p>18) $7^4 =$ _____</p> <p>19) The number 72 has how many prime divisors? _____</p> <p>20) $802 * 798 =$ _____</p> | <p>21) The number 72 has how many positive integral divisors? _____</p> <p>22) 1380 minutes is how many hours? _____</p> <p>23) $3 + 6 + 9 + \dots + 57 =$ _____</p> <p>24) $14^2 + 42^2 =$ _____</p> <p>25) Find the simple interest on \$800 at 12% for 4 months (decimal). \$ _____</p> <p>26) The LCM of 28 and 42 = _____</p> <p>27) $42 * 48 =$ _____</p> <p>28) $114 * 12 =$ _____</p> <p>29) $0.\overline{180180180} =$ (fraction) _____</p> <p>30) $9^3 =$ _____</p> <p>31) The slope of line perpendicular to $7x + 14y = 9$. _____</p> <p>32) If $A = 3$, $B = 7$, then $A^2B =$ _____</p> <p>33) $144_6 =$ _____₁₀</p> <p>34) If $(2x - 3)^2 = ax^2 + bx + c$, $a+b+c =$ _____</p> <p>35) If $x + y = 6$, $x - y = 3$, then $x^2 =$ (decimal) _____</p> <p>36) The ratio of the volumes of 2 similar cones whose surface areas are in the ratio 4:9 is _____</p> <p>37) $\frac{1}{3} + \frac{1}{9} + \frac{1}{27} =$ _____</p> <p>38) The LCM of 12, 16, and 20 _____</p> <p>39) If $x < 0$, $9^2 + x^2 = 41^2$, $x =$ _____</p> <p>40) The smallest root of $(2 - 3x)^2 = 16$ is _____</p> |
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Skyview Invitational Games for Mathematical Achievement
Mental Math – 2005 ROUND 1 ANSWERS

Correct _____x5=_____

Skipped _____x1=_____

Score: _____

Verify: _____

**Answer KEY is below. Count both correct and skipped problems.
The score is (# correct * 5) + (# skipped * 1). Enter above.**

1)	10036	_____		21)		_____
2)	-198	_____			12	_____
3)	1903	_____		22)	23	_____
4)	450	_____		23)	570	_____.
5)	14.4	_____		24)	1960	_____.
6)	729	_____		25)		_____.
7) .	$\frac{29}{50}$	_____			32	\$_____
8))	$35 \frac{2}{9}$	_____		26)	84	_____
9)	$1 \frac{1}{3}$	_____		27)	2016	_____
10)	225	_____		28)	1368	_____
11)		_____		29) .	$\frac{20}{111}$	_____
	2.13	\$_____		30)	729	_____
12)	424	_____		31)		_____
13)	14	_____			2	_____.
14	$28 \frac{4}{7}$	_____ %		32)	63	_____
15)		_____		33)	64	_____10.
	57.75	_____		34)	1	_____.
16)	29	_____		35)	20.25	_____.
		_____		36)		_____
17)	$\frac{6}{17}$	_____			$\frac{8}{27}$ OR 8:27 OR "8 to 27"	_____
18)	2401	_____		37)	$\frac{13}{27}$	_____.
19)		_____		38)	240	_____.
	2	_____		39)	-40	_____.
20)	639996	_____		40)	$-\frac{2}{3}$	_____.