## Cullman Middle School Math Tournament 2011 6 $^{\text {th }}$ Grade Test

1. Evaluate. $3(15-2 \times 4 \times 0 \times 5)-\left(3^{2}-8\right)$
A) -1
B) 2
C) 44
D) 47
2. Find the product of the factors in the prime factorization of 200.
A) 5
B) 6
C) 60
D) 200
3. Simplify. $\frac{4!+5!}{3!}$
A) 3
B) $20 / 3$
C) 48
D) 24
4. Find the millionths digit in the decimal form of $3 / 11$.
A) 1
B) 2
C) 3
D) 7
5. What is the smaller angle formed by the hands of a clock at 7 pm ?
A) $7^{\circ}$
B) $70^{\circ}$
C) $150^{\circ}$
D) $210^{\circ}$
6. Find $2 x^{3} y^{2}-5 z+10$ if $x=1, y=-2$ and $z=3$.
A) 3
B) 7
C) 10
D) 19
7. Pi Day will be celebrated in math classrooms on Monday, March 14, 2011. What day of the week will it be 314 days from Pi Day 2011?
A) Saturday
B) Sunday
C) Monday
D) Tuesday
8. Multiply $1 / 4$ by the reciprocal of $1 \frac{1}{4}$.
A) 5
B) $1 / 5$
C) $5 / 16$
D) $4 / 5$
9. If $36 \div p=15-13+11-9+7-5$, find $p$.
A) -6
B) 6
C) 30
D) 2
10. If $x^{*} y=4 y+2 x$ when $x=5$ and $y=-1$ and $a \Delta b=a^{2}-b$ when $a=2$ and $b=5$, find $x^{*} y$ divided by $a \Delta b$.
A) - 1
B) 1
C) -6
D) 6
11. Solve. $5 k-16=24$
A) 8
B) 5
C) $8 / 5$
D) $5 / 8$
12. A rectangle has a perimeter of 72 . Its width is half its length. What is its area?
A) 6
B) 12
C) 36
D) 288
13. If $L=$ the least common multiple of 12 and 18 and $G=$ the greatest common factor or 51 and 68, find $L-G$.
A) 5
B) 19
C) 11
D) 35
14. Simplify. $31,400,000 \div 10,000,000$
A) 3.14
B) 31.4
C) 314
D) 0.314
15. Multiply and simplify. $-\frac{25}{18} \cdot \frac{45}{35} \cdot \frac{14}{15} \cdot-\frac{1}{3}$
A) $-7 / 9$
B) $-5 / 9$
C) $7 / 9$
D) $5 / 9$
16. Mary Beth buys movie tickets for herself and five of her friends. If she paid $\$ 51$ for the tickets, how much did each one cost?
A) $\$ 8$
B) $\$ 8.50$
C) $\$ 10.20$
D) $\$ 51$
17. Find the sum of the perfect squares between 1 and 50 .
A) 138
B) 139
C) 140
D) 2500
18. If $16^{1 / 2}=4$ and $4^{-2}=1 / 16$, find $25^{1 / 2}-5^{-2}$.
A) $424 / 25$
B) $49 / 10$
C) -20
D) 0
19. If $P=$ number of sides in a pentagon, $I=$ the first non-negative integer, $D=$ number of days in a leap year, $A=$ sum of the measures of the angles in a triangle and $Y=$ number of years in a decade, find $P+I+D+A+Y$.
A) 651
B) 652
C) 561
D) 562
20. If $S=$ the number of ways you can arrange the letters in the word SNOW and $M=$ the numbers of ways to arrange the letters in the word MAN, find $S+M^{2}$.
A) 13
B) 27
C) 30
D) 60
21. Find the probability of choosing a $U$ from the word AUBURN, the NCAA national champions in football. Round to the nearest tenth.
A) $2.2 \%$
B) $3.3 \%$
C) $33.33 \%$
D) $22.6 \%$
22. Find the area of the triangle formed by the ordered pairs $(2,2),(6,2)$ and $(2,5)$.
A) 6 square units
B) 12 square units
C) 5 square units
D) 24 square units
23. If $A=$ the mean of 13 and 27 , and $B=$ the median for $\{12,17,21,15\}$, then what is $A+B$ ?
A) 56
B) 36
C) 26
D) 39
24. Find the surface area of a box (rectangular prism) with the dimensions 3 cm by 5 cm by 8 cm .
A) $16 \mathrm{~cm}^{2}$
B) $120 \mathrm{~cm}^{2}$
C) $158 \mathrm{~cm}^{2}$
D) $240 \mathrm{~cm}^{2}$
25. Find the volume in cubic inches for a box that is $\frac{1}{4}$ yard by 1 foot by 4 inches.

A) $1 \mathrm{in}^{3}$
B) $432 \mathrm{in}^{3}$
C) $12 \mathrm{in}^{3}$
D) $144 \mathrm{in}^{3}$

Tiebreakers: Please write the tiebreaker answers in the top margins on the back of the Scantron.

Tiebreaker 1: What is the distance between the points $(-3,2)$ and $(3,-6)$ ?
Tiebreaker 2: Write $1011011_{2}$ as a base ten numeral.
Tiebreaker 3: Simplify: $-4^{0}-4^{0}-(-4)^{0}$.
Turn in the pink Scantron answer sheet to the monitor. You may keep the test.

