Franklin Math Bowl
Sixth Grade Test 2010

1. Sammy played a game that involved gaining or losing counters. In the first round he gained 7 counters. In the second he lost five. In the third he lost eight. In succeeding rounds he gained ten, lost 3, gained 11, and gained two. What was his net gain or loss?
   (A) lost 14   (B) lost 12   (C) gained 12   (D) gained 14

2. What is the next Roman numeral after MCMXLIX?
   (A) MCMXLX   (B) MCMXLVII   (C) MCML   (D) MCMD

3. The current time is 7:20 AM. What time was it 720 minutes ago?
   (A) Midnight   (B) 10:30 PM   (C) 7:20 PM   (D) 4:10 AM

4. How many $\frac{1}{4}$ pound hamburger patties can be made with 8 pounds of ground beef?
   (A) 2   (B) 4   (C) 32   (D) 16

5. If a triangle has sides of length 4, 6, and 9, what kind of triangle is it?
   (A) isosceles   (B) equilateral   (C) right   (D) scalene

6. A triangle has sides of length 5 and 9. Which of these could *not* be the length of the third side?
   (A) 4   (B) 12   (C) 6   (D) 16

7. The sum of the measures of the interior angles of a pentagon is
   (A) 900°   (B) 540°   (C) 360°   (D) dependent on the lengths of the sides

8. Which of these decimals is closest to $\frac{14}{17}$?
   (A) 0.83   (B) 0.82   (C) 1.21   (D) 0.23

9. As the result of a huge contest, 1500 people each get the same share of a $6.3 million prize. How much does each person get?
   (A) $42,000   (B) $2380.95   (C) $4200   (D) $9450

10. (501 + 502 + 503 + 504 + … + 524 + 525) – (1 + 2 +3 + 4 + … + 24 + 25) = ?
    (A) 12,825   (B) 25,560   (C) 13,150   (D) 12,500

11. How many prime numbers are there between 10 and 40?
    (A) 16   (B) 6   (C) 8   (D) 12

12. A rectangle is four times as long as it is wide. Its width is 7 cm. What is its perimeter?
    (A) 35 cm   (B) 70 cm   (C) 196 cm   (D) 56 cm

13. Find the sum of the remainders of $230 \div 17$ and $431 \div 54$.
    (A) 54   (B) 20   (C) 62   (D) 83

14. What digit is in the ten thousandths place of the decimal for $\frac{367}{819}$?
    (A) 4   (B) 8   (C) 1   (D) 0

15. Which expression means seven more than five times a number?
    (A) $5n + 7$ (B) $7 + n^5$ (C) $5(n + 7)$ (D) $5n - 7$

16. What answer would a computer give to 4^(1+2)?
    (A) 64   (B) 20   (C) 12   (D) $1\frac{1}{3}$

17. Simplify: $(3 + 5 \cdot 4)^2 - 6$
    (A) 1018   (B) 40   (C) 403   (D) 523

18. Serena flips a coin twice. What is the probability that at least one coin lands tails up?
    (A) ½   (B) ¾   (C) ¼   (D) 1

19. At the sandwich shop, you have a choice of four meats, three breads, five kinds of chips, and three different beverages. How many different meals (one each of meat, bread, chips, and drink) are possible?
    (A) 15   (B) 20   (C) 27   (D) 180

20. Solve the equation: $4y + 5 = 73$
    (A) $y = 10.6$ (B) $y = 64$ (C) $y = 19.5$ (D) $y = 17$

21. In the table below, which equation would show how x and y are related?

x	1	2	3	4	5
y	4	10	16	22	28

    (A) $y = 2x - 6$ (B) $y = x + 6$ (C) $y = 4x$ (D) $y = 6x - 2$

22. What is the reciprocal of the sum of $\frac{5}{8}, \frac{7}{16}$, and $\frac{3}{5}$?

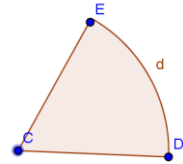(A) $\frac{133}{80}$ (B) $\frac{80}{133}$ (C) $\frac{81}{53}$ (D) $\frac{29}{15}$

23. The figure at right is a sector of a circle. $\angle ECD$ measures 60°. The length of $\overline{CD}$ is 18 inches. What is the area of the sector?

(A) 9π in.²   (B) 54π in.²   (C) 324π in.² (D)

24. 30% of a number is 42. What is 50% of that number?

(A) 21   (B) 70   (C) 7   (D) 25.2

25. The McFatridge family has a rectangular garden with a sidewalk around it. The garden measures 32 feet by 26 feet. The sidewalk is 3.5 feet wide. What is the perimeter of the outside of the sidewalk?

(A) 144 ft   (B) 130 ft   (C) 123 ft   (D) 1287 ft