30. The *digit-sum* of a whole number is the sum of its digits. How many whole numbers between 9 and 100 have an even digit-sum?
A) 45 B) 48 C) 50 D) 52

30.

31. At a rate of 80 km/hr., I can run _?_ km in 18 minutes.
A) 20 B) 24 C) 28 D) 30

31.

32. $2^{2005} = 2^{2004} + \underline{?}$
A) 1 B) 2 C) 2004 D) 2^{2004}

32.

33. The sum of the digits of all positive primes less than 20 is
A) 77 B) 76 C) 41 D) 40

33.

34. If 2 pears weigh as much as 3 peaches, and 2 peaches weigh as much as 30 grapes, then _?_ pears weigh as much as 90 grapes.
A) 4 B) 6 C) 8 D) 12

34.

35. A square with a perimeter of 32 is split into 8 identical triangles, as shown. What is the sum of the areas of the 4 shaded triangles?
A) 4 B) 8 C) 16 D) 32

35.

36. The sum of the 50 whole numbers 51, 52, . . . , 100 is _?_ greater than the sum of the 50 whole numbers 1, 2, . . . , 50.
A) 2000 B) 2500 C) 2550 D) 5000

36.

37. Service without a smile costs twice as much as service with a smile. I spent $360 for 110 services, 100 with a smile, and 10 without a smile. Each service with a smile cost me
A) $3.00 B) $3.15 C) $3.30 D) $3.45

37.

38. What is the *total* number of times that the hour hand, minute hand, and second hand go around a circular clock in 1 day?
A) 144 B) 1440 C) 1466 D) 86 400

38.

39. The product of 3 different primes is always divisible by exactly _?_ different non-prime numbers greater than 1.
A) 1 B) 2 C) 3 D) 4

39.

40. Every birthday of my life, I put as many pennies in a jar as my age in years. I now have $1.20 in the jar. How old am I?
A) 10 B) 12 C) 15 D) 20

40.

The end of the contest ✍ **6**

SIXTH GRADE MATHEMATICS CONTEST

Sample 6th Grade Contest

Tuesday, March 8 (alternate date: March 15), 2005

6

Instructions

- **Time** Do *not* open this booklet until you are told by your teacher to begin. You will have only *30 minutes* working time for this contest. You might be *unable* to finish all 40 questions in the time allowed.

- **Scores** Please remember that *this is a contest, not a test*—and there is no "passing" or "failing" score. Few students score as high as 30 points (75% correct). Students with half that, 15 points, *should be commended!*

- **Format, Point Value, & Eligibility** This is a multiple-choice contest. Every answer is an A, B, C, or D. You must write each answer in the *Answers* column to the right of each question. We suggest (but do not require) that you use a pencil. A correct answer is worth 1 point. Unanswered questions get no credit. You **may** use a calculator. You're eligible for this contest only if you're in grade 6 or below and only if you don't also take this year's *Annual 7th Grade* or *Annual 8th Grade Contest.*

Please Print *(To the student: You must complete all items below)*

Last Name _____ First Name _____

School _____ Teacher _____ Grade Level _____

Time at Start of Contest _____ Today's Date _____

Do Not Write In The Space Below

To the Teacher:
Please enter the score at the right before you return this paper to the student. *Papers with scores of 30 or higher must be held until June 1.*   **Student's Score:** _____
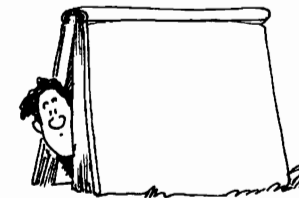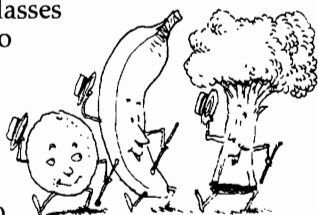
1. Of the following, which is between $\frac{1}{2}$ and $\frac{3}{4}$?
   A) 0.2   B) 0.4   C) 0.6   D) 0.8

2. A polygon *cannot* have ? sides.
   A) 2   B) 3   C) 4   D) 21

3. The brochure said, "Watch your mail!" I watched for 5 days less than 5 weeks. For how many days did I watch my mail?
   A) 10   B) 25   C) 30   D) 35

4. $1010 + 10\,100 = 10 \times$?
   A) 101   B) 1010   C) 1020   D) 1111

5. A $5 roll of dimes has ? more coins than a $10 roll of quarters.
   A) 0   B) 2   C) 5   D) 10

6. If 10% of a number is 100, then 100% of the same number is
   A) 10   B) 100   C) 110   D) 1000

7. $(12+10+8+6+4+2) \div (6+5+4+3+2+1) =$
   A) 60   B) 45   C) 6   D) 2

8. Which of the following numbers is *twice* a multiple of 6?
   A) 28   B) 30   C) 36   D) 42

9. $54 \div 3 = 3 \times$?   A) 6   B) 18   C) 54   D) 162

10. A roll of wallpaper covers half the area of a square wall whose width is 4. The area of the part covered by this wallpaper is
    A) 4   B) 8   C) 16   D) 32

11. I need 12 pieces of fruit to make 3 glasses of juice. How many pieces of fruit do I need to make 10 glasses of juice?
    A) 30   B) 36   C) 40   D) 120

12. How many positive divisors of 100 are also multiples of 100?
    A) 1   B) 10   C) 25   D) 100

13. A *hendecagon* is an 11-sided polygon. What is the product of the number of sides of a hendecagon and of a square?
    A) 44   B) 55   C) 66   D) 88

14. (number of 0s in 1 thousand):(number of 0s in 1 million) =
    A) 1:1   B) 1:2   C) 2:3   D) 4:7

15. Every ? number has at least one even prime factor.
    A) even   B) odd   C) prime   D) whole

16. If my pet runs 300 *cm*/sec. and your rocket flies 300 *m*/sec., then your rocket travels ? times as fast as my pet.
    A) 30 000   B) 10 000   C) 300   D) 100

17. I multiply 2 integers. Their product is 32. Their sum *cannot* be
    A) 12   B) 18   C) 32   D) 33

18. The average of 11, 12, 13, 14, 15, 16, 17, 18, and 19 is
    A) 15   B) 16   C) 19   D) 135

19. In a 3-act play, each act has 4 scenes. If 2 new characters are introduced in each scene, how many characters are in this play?
    A) 6   B) 8   C) 12   D) 24

20. If $\frac{3}{4}$ of our letters are bills, then the ratio of the number of bills to the number of other letters is
    A) 7:1   B) 7:3   C) 3:1   D) 3:4

21. $4 \times 4^4 =$
    A) 4^4 B) 4^5 C) 14^4 D) 16^5

22. Ten coins, each a penny, a nickel, or a dime, *cannot* total
    A) 11¢   B) 19¢   C) 30¢   D) 31¢

23. The area of a square with integer side-lengths *could* be
    A) 600   B) 700   C) 800   D) 900

24. The total value of 75 nickels = the total value of ? quarters.
    A) 3   B) 15   C) 25   D) 375

25. The following are all factors of $30 \times 40 \times 50$ *except*
    A) $1 \times 3 \times 5$ B) $2 \times 4 \times 6$ C) $5 \times 7 \times 9$ D) $6 \times 8 \times 10$

26. Ten years ago, the sum of the ages of Ted and his twin brother Todd was 22. How old is Ted now?
    A) 16   B) 21   C) 32   D) 42

27. We have 6 tents for 18 campers. Each tent holds either 2 or 4 campers. Exactly how many of our tents hold 2?
    A) 4   B) 3   C) 2   D) 1

28. If 3 out of 5 dentists recommend sugarless gum, what percent *don't* recommend sugarless gum?
    A) 20%   B) 30%   C) 40%   D) 60%

29. The time ? is 6 hours before 6 minutes after noon.
    A) 6:06 A.M.   B) 6:06 P.M.   C) 5:54 A.M.   D) 5:54 P.M.