1994 SIXTH GRADE MATHEMATICS COMPETITION

AUSTIN PEAY STATE UNIVERSITY
CLARKSVILLE, TENNESSEE

Sixth Grade Test
1994
Scoring Formula 4R - W + 40

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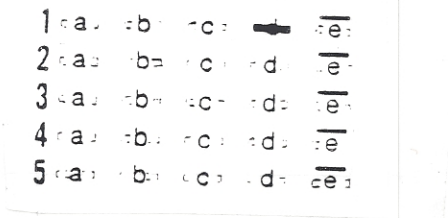
DIRECTIONS:

This is a test of your competence in junior high school mathematics. For each problem there are 5 possible answers listed. You are to work the problems, determine the correct answer, and indicate your choice on the separate answer sheet provided.

SAMPLE:

1. If x + 1 = 2, then x equals
   a) 0
   b) 2
   c) -1
   d) 1
   e) none of the above



The correct answer is 1 which is d), so you would answer this problem by darkening the space on the answer sheet corresponding with this choice.

If you change your mind about your answer, be sure to erase completely. Avoid wild guessing, as wrong answers count against you. Do not mark more than one answer for any problem. Make no stray marks of any kind on your answer sheet.

When told to do so, open your test booklet and begin. When you have finished one page, go on to the next. The working time for the entire test is 80 minutes.

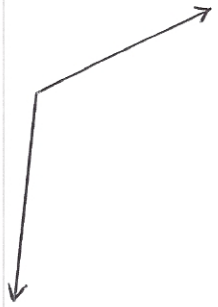
1. Tom has three coins in his pocket. Which amount of money would it be possible for him to have?

   a. 13¢
   b. 74¢
   c. 26¢
   d. 27¢
   e. 24¢

2. $2^3 \cdot 3^2 =$

   a. 72
   b. 36
   c. 25
   d. 5^5
   e. 6^5

3. Which of the following is the best estimate of the measure of the angle pictured below?



   a. 170°
   b. 120°
   c. 90°
   d. 50°
   e. 35°

4. Which fraction is closest to 81%?

   a. $\frac{8}{100}$
   b. $\frac{3}{4}$
   c. $\frac{1}{8}$
   d. $\frac{9}{10}$
   e. $\frac{4}{5}$

5. Which of the following is the best approximation of the distance between the bottom and the top of this page?

a. 15 cm

b. 30 cm

c. 45 cm

d. 1 m

e. 2 m

6. What is the sum of the first 5 prime numbers?

a. 18

b. 20

c. 23

d. 24

e. 28

7. John went to sleep at 9:57 p.m. and woke up the next morning at 6:28 a.m. How long did he sleep?

a. 6 hours and 28 minutes

b. 9 hours and 57 minutes

c. 15 hours and 29 minutes

d. 8 hours and 28 minutes

e. 8 hours and 31 minutes

8. Jean is making ribbons to give as awards for field day. She uses a 6-inch length of ribbon for each award. She has $1\frac{1}{2}$ yards of ribbon. How many awards can she make?

a. 3

b. 9

c. 6

d. 4

e. 1

9. Which number is a common multiple of 8 and 12?

a. 20
b. 36
c. 144
d. 1
e. 4

10. One way to make change for a quarter is with two dimes and one nickel. In all, how many different ways are there to make change for a quarter?

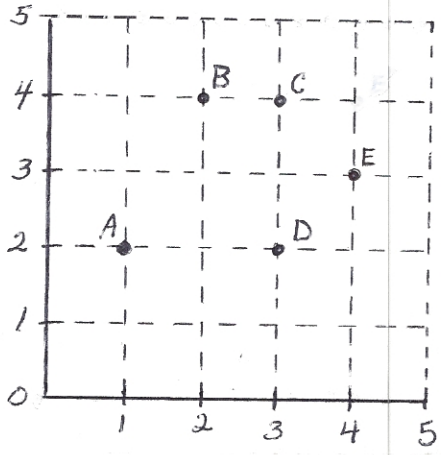
a. 9
b. 10
c. 11
d. 12
e. 14

11. There are 12 students in a club. There are half as many boys as girls. How many girls are in the club?

a. 2
b. 4
c. 6
d. 8
e. 10

12. Which point has the coordinates (3, 4)?

a. A
b. B
c. C
d. D
e. E



13. In which picture are $\frac{1}{4}$ of the marbles black?

a. 

b. 

c. 

d. 

e. 

14. $\frac{3}{7} + \frac{2}{5} =$

a. $\frac{1}{2}$

b. $\frac{4}{5}$

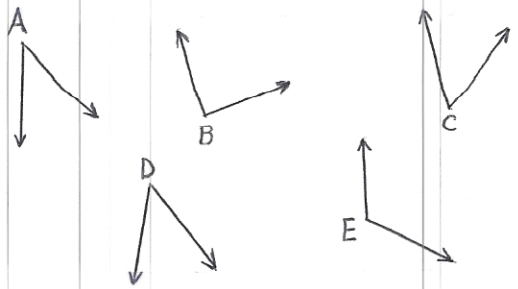
c. $\frac{29}{35}$

d. $\frac{31}{35}$

e. $\frac{5}{12}$

15. Which of the angles pictured below is an obtuse angle?

a. ∠A
b. ∠B
c. ∠C
d. ∠D
e. ∠E



16. Identify the number which is greater than 1.

a. $\frac{3}{7}$

b. $\frac{5}{11}$

c. $\frac{3}{4}$

d. $\frac{7}{6}$

e. $\frac{11}{23}$

17. $3^4 =$

a. 12

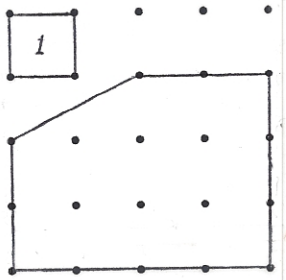
b. 15

c. 18

d. 27

e. 81

18. Given that the area of the small square is 1 square unit, what is the area of the pentagon?



a. 12 square units

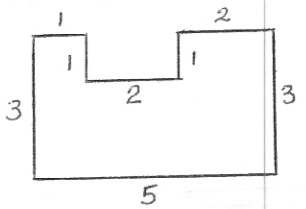
b. 11 square units

c. $10\frac{1}{2}$ square units

d. 10 square units

e. $9\frac{1}{2}$ square units

19. All the angles of the polygon pictured below are right angles. The length of each side is given. What is the area?



a. 15 square units

b. 14 square units

c. 13 square units

d. 12 square units

e. 11 square units

20. A pair of dice is tossed. What is the probability that the resulting sum is 9?

a. $\frac{1}{9}$

b. $\frac{1}{7}$

c. $\frac{5}{36}$

d. $\frac{9}{36}$

e. $\frac{8}{36}$

21. 4593 x 3126 =

a. 14,357,714
b. 14,357,715
c. 14,357,716
d. 14,357,717
e. 14,357,718

22. 374 x 491 + 626 x 491 =

a. 374,000
b. 491,000
c. 626,000
d. 374,626
e. 491,626

23. [(93 x 76) - (67 x 21) + (369 ÷ 9)] x 0 =

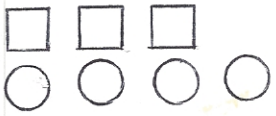
a. 0
b. 672
c. 487
d. 671
e. 936

24. If $\frac{6}{18} = \frac{x}{36}$ then x =

a. 3
b. 6
c. 8
d. 12
e. 18

25. What is the ratio of the number of circles to the number of squares?

a. 3:4
b. 3:7
c. 4:3
d. 4:7
e. 7:4



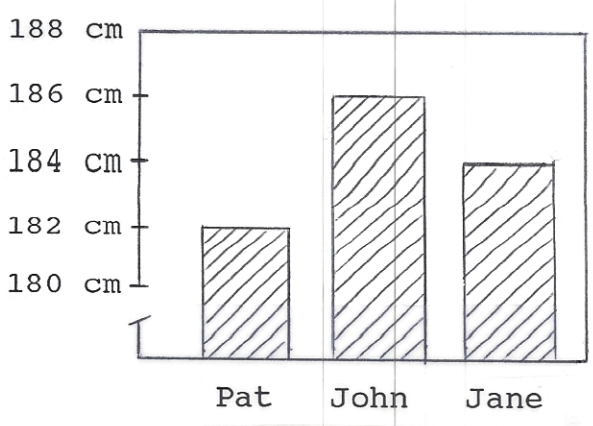
26. What is the mean of the numbers 17, 19, 21, 23, 25 and 27?

a. 17
b. 19
c. 21
d. 22
e. 24

27. Which of the following numbers is greater than 3.5 and less than 3.9?

a. 3.612
b. 3.49
c. 3.91
d. 3.397
e. 3.3614

28. Height of Students



Which of the following statements is true?

a. John is twice as tall as Pat.
b. Jane is one cm shorter than John.
c. John is two cm taller than Pat.
d. John is more than two meters tall.
e. Pat is four cm shorter than John.

29. In her purse, Mary had one twenty-dollar bill, one ten-dollar bill, three five-dollar bills, four one-dollar bills, four quarters, five dimes and seven pennies. How much money did she have in her purse?

a. $38.07
b. $49.07
c. $49.97
d. $50.52
e. $50.57

30. John originally had 15 marbles. He gave $\frac{1}{3}$ of his marbles to his friend Jim. How many marbles did John have left?

a. 5
b. 7
c. 10
d. 12
e. 15

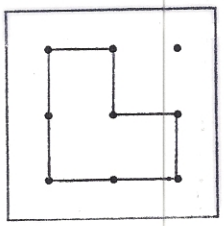
31. Terry sells eggs by the dozen. After she gathers the eggs, she fills as many 1-dozen containers as she can. She keeps any leftover eggs for herself. Today her hens laid 79 eggs. How many eggs will she keep?

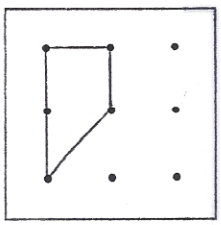
a. 6
b. 7
c. 12
d. 67
e. 72

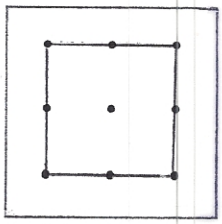
32. What is the measure of the angle formed by the hour hand and the minute hand of a clock at 4 o'clock?

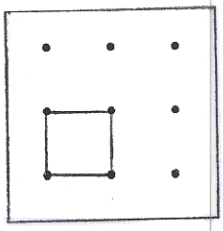
a. 150°
b. 120°
c. 90°
d. 60°
e. 45°

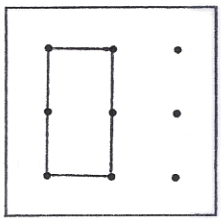
33. If the given picture shows $1\frac{1}{2}$, which picture shows 1?

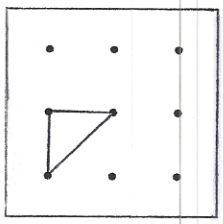


a. 

b. 

c. 

d. 

e. 

34. $3 + {}^{-}2 \times 4 =$

a. $^{-}5$

b. 4

c. 5

d. 11

e. 20

35. A car has a gas tank which holds 20 gallons. The car will travel 276 miles on 12 gallons of gas. How far will the car travel on a full tank of gas?

a. 320 miles

b. 360 miles

c. 460 miles

d. 480 miles

e. 500 miles

36. Which number sentence best represents the following situation:

On 4 plays the Bobcats football team gained 6 yards, then they lost 12 yards, then they lost 2 more yards, and finally they gained 8 yards.

a. $4 + 6 + 12 + 2 + 8$

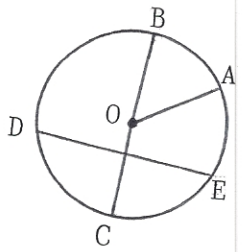
b. $4 + 6 + {}^{-}12 + {}^{-}2 + 8$

c. $6 + {}^{-}12 + {}^{-}2 + 8$

d. $6 + 12 + 2 + 8$

e. $6 - 12 - 2 - 8$

37. In the figure below, O is the center of the circle. Which of the following sentences is true?



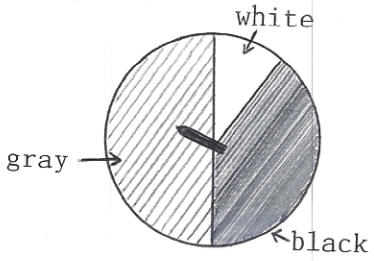
a. $\overline{DE}$ and $\overline{BC}$ are chords of the circle.

b. $\overline{DE}$ is the only chord pictured.

c. $\overline{DE}$ is a radius of the circle.

d. $\overline{DE}$ is a diameter of the circle.

e. $\overline{DE}$, $\overline{BC}$ and $\overline{AO}$ are chords of the circle.

38. 

For the spinner pictured here, which statement is true?

a. When the pointer is spun, it is more likely to point to black than gray when it stops.

b. When the pointer is spun, it is equally likely to point to any of the colors when it stops.

c. When the pointer is spun, it is less likely to point to black than white when it stops.

d. When the pointer is spun, it is least likely to point to white when it stops.

e. When the pointer is spun, it is least likely to point to black when it stops.

39. Mary entered a certain number on her calculator. She divided that number by 5 and then added 11 to the result. She had 20 on the display of her calculator. What was the number she originally entered on her calculator?

a. 45

b. 20

c. 11

d. 15

e. 63

40. Examine the table given below. Look for a pattern. What entry in the second column would correspond to a first-column entry of 100?

a. 100

b. 150

c. 200

d. 201

e. 207

First Column	Second Column
1	3
2	5
3	7
4	9
100	?