Broward County Council of Teachers of Mathematics

Annual Contest 2007

Grade 6

(Grade 5)

MATS

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2007 BCCTM ANNUAL CONTEST

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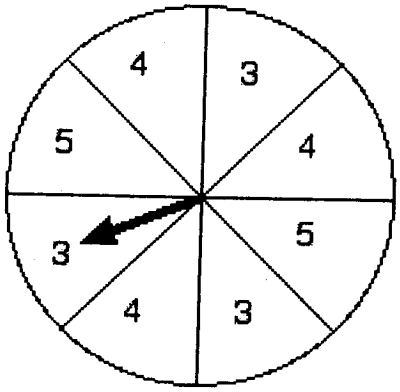
DIRECTIONS: *Mark the letter of the best answer on your answer sheet. You may write on this test copy.*

1. What are the odds in favor of the pointer stopping on a wedge with a number greater than 4?



A. 1 to 3 B. 1 to 4 C. 4 to 1 D. 3 to 1

2. A game is said to be fair if your chance of winning is equal to your chance of losing. How many of the following games, involving tossing a regular six-sided die, are fair?

- You win if you roll a 2.
- You win if you roll an even number.
- You win if you roll a number less than 4.
- You win if you roll a number divisible by 3.

A. 0 B. 1 C. 2 D. 3

3. If $a \Delta b \Delta c = a \times c + b \times c$, then $7 \Delta 8 \Delta 9 =$

A. 128 B. 135 C. 272 D. 639

4. Today is Wednesday. What day of the week will be 100 days from now?

A. Tuesday B. Thursday C. Friday D. Saturday

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5. Which of the following is closest to one million seconds?

   A. 1 day B. 1 year C. 10 days D. 100 days

6. If two-thirds of a cup of fish food can feed 8 goldfish, then 4 cups of fish food should be able to feed how many goldfish?

   A. 12 B. 24 C. 36 D. 48

7. Judy has two horses Sam and Lucy. Lucy eats 5 kilograms of hay in 5 days. Sam eats twice as much. How many kilograms of hay does it take to feed both horses for thirty days?

   A. 5 kg B. 15 kg C. 30 kg D. 90 kg

8. The difference between two prime numbers can never equal

   A. 1 B. 2 C. 7 D. 8

9. What is the ninth number in the sequence?

   2, 3, 5, 9, 17, 33, ...

   A. 57 B. 64 C. 128 D. 257

10. The area of a square is 36 square inches. You need to draw a square four times bigger for art class. What will be the length of its sides?

    A. 12 inches B. 24 inches C. 36 inches D. 72 inches

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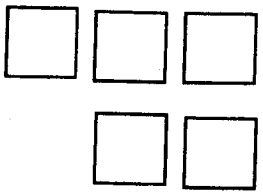
11.



Each of the digits 3, 5, 6, 7, and 8 is placed one to a box in the diagram. If the two-digit number is subtracted from the three-digit number, what is the smallest difference?

A. 269 B. 278 C. 484 D. 271

12. Which of the following numbers has the greatest value?

A. 1^{25} B. 25% C. $\frac{1}{25}$ D. 2.5

13. If a dirt truck carries 20 loads every day, what percent of a 350-load job does this truck carry in 7 days?

A. 42 B. 40 C. 30 D. 6

14. Carrots cost \$0.49 for a one-pound package, or \$1.49 for a five-pound package. You need 9 pounds of carrots for a carrot cake. To spend the least amount of money, what should you buy?

A. 9 one-pound packages
B. 4 one-pound packages and one five-pound package
C. 8 one-pound packages and one five pound package
D. 2 five-pound packages

15. At *most* how many students can sit in a row of 25 chairs, if seated students must be separated by at least one empty chair?

A. 11 B. 12 C. 13 D. 14

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16. $\left(\frac{1}{2} \times \frac{1}{3}\right) \div (2 \times 3) = ? \times \frac{1}{3}$

A. $\frac{1}{12}$ B. $\frac{1}{72}$

C. 3 D. 36

17. The nurse took Rachel's pulse. It beat 11 times in 10 seconds. What was her pulse rate in terms of beats per minute?

A. 1 : 11 B. 10 : 11 C. 66 : 1 D. 66 : 60

18. What one number, when added separately to 100 and 164, will make both resulting numbers perfect squares?

A. 21 B. 44 C. 69 D. 125

19. You flip a coin ten times. On the tenth turn, what is the probability that the coin will land on heads?

A. 10% B. 20% C. 50% D. 90%

20. How many whole numbers leave no remainder when divided into 60?

A. 10 B. 12 C. 15 D. 30

21. The Panthers hockey team played a total of 20 games. They tied three games and lost one more game than they won. How many games did they win?

A. 7 B. 8 C. 9 D. 10

22. The bus company wants to install a fence thirty feet from their building on all four sides. The building is 80 feet long and 50 feet wide. How many feet of fence do they need?

A. 290 B. 320 C. 380 D. 500

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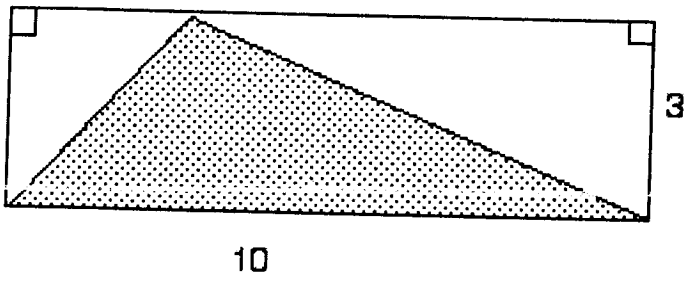
23.



In the diagram, what is the area of the shaded triangle, in square centimeters?

A. 6.5 B. 7.5 C. 15 D. 13

24. Twenty telephone poles are placed in a straight line. The distance between any two consecutive poles is 4 meters. What is the distance between the first and the tenth pole?

A. 36 m B. 40 m C. 44 m D. 80 m

25. The length of each side of a hexagon is a whole number. The perimeter of this hexagon cannot equal

A. 5 B. 1991 C. 1992 D. 1993

26. Exactly how many hours does it take for a minute hand to go 60 times completely around the face of a circular clock?

A. 1 B. 60 C. 360 D. 3600

27. Each of the integers 226 and 318 have digits whose product is 24. How many three-digit positive integers have digits whose product is 24?

A. 4 B. 18 C. 21 D. 24

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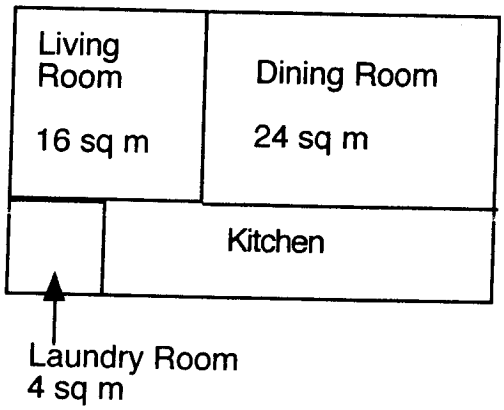
28.



In the diagram above, the rectangular floor plan of the first floor of a house is shown. The living room and the laundry room are both square. The areas of three of the rooms are shown on the diagram. What is the area of the kitchen in square meters?

A. 12 B. 16 C. 18 D. 24

29. The base of a rectangular box has a perimeter of 50 feet. The box is 5 feet longer than it is wide. What is the width of the box?

A. 10 feet B. 15 feet C. 20 feet D. 40 feet

30. Of the following, which has the greatest value?

A. 20% of 80 B. 25% of 65

C. 30% of 50 D. 35% of 35