CIE 2016 Math Comp Math Fun
Answer Key

Name:_____ ID:_____ Grade: 4

Room:____ Start Time:_____ Finish Time:_____

No.	Answer
1	E
2	A
3	B
4	B
5	A
6	C
7	B
8	B
9	A
10	B
11	B
12	D
13	B
14	D
15	B
16	C
17	D
18	E
19	C
20	B
21	B
22	A
23	E
24	D
25	D

No.	Answer
26	B
27	E
28	A
29	C
30	D
31	C
32	D
33	
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CIE-USA/DFW

Math Competition 2016

Grade 4

32 questions

60 minutes

Notes:

1. DO NOT BEGIN UNTIL YOUR PROCTOR TELLS YOU.
2. This is a 30 question multiple choice test, followed by 2 bonus questions. Each question is followed by answers marked A, B, C, D and E. Only one of these is correct.
3. The answers to the problems are to be marked on the Answer Form. Only the answer form will be graded.
4. There is no penalty for guessing. Your score on this test is the number of correct answers.
5. Figures are not necessarily drawn to scale.
6. Bonus questions will be counted only when there is a tie using common questions.

Name (Please print) _____

Room (Please print) _____

1. What is 14÷7?

(A) 0 (B) 1/7 (C) 1/2 (D) 1.5 (E) 2

2. Eddie's birthday this year was on a Tuesday. Three days before his birthday was a ___.

(A) Saturday (B) Sunday (C) Monday (D) Thursday (E) Friday

3. Lollipops cost 40 cents each, and chocolate bars costs 20 cents each. Sam bought the same number of lollipops as chocolate bars, and he spent $1.20 in total. How many total pieces of candy did Sam buy?

(A) 2 (B) 4 (C) 6 (D) 8 (E) 10

4. A stack of pennies containing 50 pennies is 5 cm tall. How many pennies would there be in a stack 7.5 cm tall?

(A) 60 (B) 75 (C) 85 (D) 100 (E) 150

5. Lee, Pat, and Sam bought popsicles. Lee bought 3 times as many popsicles as Pat, and Sam bought 2 times as many ice pops as Lee. If Sam bought 12 popsicles, how many did Pat buy?

(A) 2 (B) 3 (C) 4 (D) 5 (E) 72

6. What is the sum of 661 rounded to the nearest hundred and 162 rounded to the nearest ten?

(A) 820 (B) 823 (C) 860 (D) 870 (E) 900

7. Snoopy draws one card from a regular deck of 52 cards. What is the probability the card is a 10?

(A) 1/52 (B) 1/13 (C) 1/4 (D) 1/2 (E) 1

8. A circle and two distinct lines are drawn on a sheet of paper. What is the largest number of sections the circle can be cut into by cutting along the lines?

(A) 3 (B) 4 (C) 5 (D) 6 (E) 7

9. Along a straight road, an ice cream shop is 3 km from the bus and 7 km from the train. The least possible distance between the bus and the train is ___.

(A) 4 km (B) 7 km (C) 10 km (D) 13 km (E) 3 km

10. Each of the following is divisible by 4 except

(A) 2000 (B) 2002 (C) 2004 (D) 2016 (E) 2020

11. A group of children riding on bicycles and tricycles rode past Billy Bob's house. Billy Bob counted 5 children and 12 wheels. How many tricycles were there?

(A) 1 (B) 2 (C) 3 (D) 4 (E) 5

12. The product of 2 different positive integers is 7. Their sum is

(A) 5 (B) 6 (C) 7 (D) 8 (E) 9

13. The product

$$\left(1-\frac{1}{2}\right)\left(1-\frac{1}{3}\right)\left(1-\frac{1}{4}\right)\cdots\left(1-\frac{1}{10}\right)=$$

(A) 1/20 (B) 1/10 (C) 1/5 (D) 1/3 (D) 1/2

14. Six flags are equally spaced along one side of a straight road. The distance from the first flag to the fourth is 60 feet. What is the distance in feet between the first and last flags?

(A) 72ft (B) 75 ft (C) 90 ft (D) 100 ft (E) 120 ft

15. All the integers between 1 and 20 are multiplied together. The units digit of the product is

(A) 20! (B) 0 (C) 4 (D) 5 (E) 9

16. In the addition problem, each digit has been replaced by a letter. If different letters represent different digits, and Y is not 0, then what is X + Y?

$$\begin{array}{r} X\ Y \\ +\ Y \\ \hline 80 \end{array}$$

(A) 10 (B) 11 (C) 12 (D) 13 (E) 14

17. If $a \otimes b = (a + b) * (a - b)$, then $(4 \otimes 3) + (3 \otimes 2) + (2 \otimes 1) =$

(A) 4 (B) 10 (C) 14 (D) 15 (E) 16

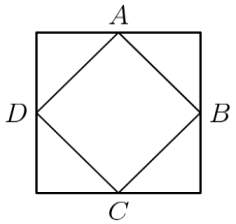
18. A regular six sided dice is thrown. What is the probability that the number rolled is neither prime nor composite?

(A) 5/6 (B) 1/3 (C) 1/2 (D) 2/3 (E) 1/6

19. The mean of a set of five different positive integers is 5. The median is 6. The largest possible integer in this set is.

(A) 7 (B) 8 (C) 9 (D) 10 (E) 11

20. Points A, B, C and D are midpoints of the sides of the larger square that has side length 2. What is the ratio of the area of ABCD to the larger square?



(A) 1/4 (B) 1/2 (C) 2 (D) 4 (E) None of these

21. Bob's chess club holds a tournament where the losing player of each game is eliminated from the tournament. Two players play in each game. If sixteen players compete, how many games will be played to determine the winner?

(A) 5 (B) 15 (C) 16 (D) 20 (E) 32

22. How many two-digit positive integers have digits that add to 6?

(A) 6 (B) 7 (C) 8 (D) 9 (E) 12

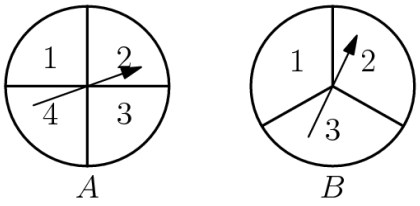
23. Which of the following numbers has the smallest prime factor?

(A) 15 (B) 19 (C) 21 (D) 25 (E) 40

24. The number N is between 9 and 17. The average of 6, 10, and N could be

(A) 5 (B) 6 (C) 7 (D) 10 (E) 12

25. Spinners A and B are spun. On each spinner, the arrow is equally likely to land on each number. What is the probability that the product of the two spinners' numbers is odd?



(A) 1/12 (B) 1/6 (C) 1/4 (D) 1/3 (E) 5/6

26. A whole number less than 100 is chosen at random and is added to that number with the digits flipped. For example, if the number chosen is 16, the result would be 16+61=77. What is the greatest possible sum?

(A) 99 (B) 198 (C) 199 (D) 200 (E) 201

27. If the length of a rectangle is increased by 20% and its width is increased by 50%, then the area is increased by

(A) 200% (B) 180% (C) 150% (D) 140% (E) 80%

28. A cube with 4-inch edges is made using 64 cubes with 1-inch edges. If the entire outside surface of the 4-inch cube is painted red, how many 1-inch cubes have not been painted on any side?

(A) 8 (B) 27 (C) 35 (D) 41 (E) None of these

29. After a test, a teacher lets his students grade each other's test. He distributes 4 tests among the 4 students so that every student gets a test that is not his/her own. How many ways can this be done?

(A) 6 (B) 8 (C) 9 (D) 10 (E) 15

30. Jimmy writes out all the integers from 100 to 200 inclusive. How many times does he write the digit 2?

(A) 10 (B) 11 (C) 20 (D) 21 (E) None of these

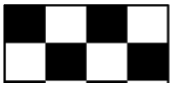
<u>BONUS QUESTIONS:</u>

31. What is the measure of the acute angle formed by the hands of a clock at 3:15 PM?

(A) 0 (B) 5 (C) 7.5 (D) 10 (E) 12

32. A "domino" is made up of two small squares:

How many ways are there to cover the "checkerboard" illustrated below exactly and completely using a whole number of non-overlapping dominoes?



(A) 2 (B) 3 (C) 4 (D) 5 (E) 12