Sample Test Group A
Grade 4 and Grade 5 Part 1

1. What is the median of $100, 100, 30, 80, 90, 100, 40, 100$?
(A) 80 **(B)** 85 **(C)** 90 **(D)** 95 **(E)** 100

Answer: (D)

2. Which of the following numbers is not a divisor of 121212?
(A) 2 **(B)** 3 **(C)** 7 **(D)** 9 **(E)** 11

Answer: (E)

3. Using pennies, nickels, dimes, and quarters only, what is the least number of coins to make \$1.86? (Note that we don't have to use all four types of coins.)
(A) 8 **(B)** 9 **(C)** 10 **(D)** 11 **(E)** 12

Answer: (B)

4. Which of the following inequalities is incorrect?
(A) $\frac{1}{8} > \frac{1}{9}$ **(B)** $\frac{4}{7} < \frac{5}{7}$ **(C)** $\frac{15}{16} > \frac{5}{6}$ **(D)** $\frac{6}{13} < \frac{5}{11}$ **(E)** $\frac{5}{8} > \frac{7}{12}$

Answer: (D)

5. What is the value of

$$1111 + 4321 - 1234$$

expressed to the nearest hundred?
(A) 4000 **(B)** 4100 **(C)** 4200 **(D)** 4190 **(E)** 4300

Answer: (C)

6. Which of the following numbers is closest to 50?
(A) 49.899 **(B)** 49.92 **(C)** 50.1 **(D)** 50.09 **(E)** 50.023

Answer: (E)

7. What is the value of x for

$$\frac{1}{x} = \frac{1}{2} - \frac{1}{3}?$$

(A) 6 **(B)** 5 **(C)** $\frac{6}{5}$ **(D)** $\frac{1}{4}$ **(E)** $\frac{1}{6}$

Answer: (A)

8. What is the value of the following expression?

$$1 - 3 + 5 - 7 + 9 - \cdots - 35 + 37 - 39 + 41$$

(A) 19 **(B)** 21 **(C)** 23 **(D)** 25 **(E)** 27

Answer: (B)

9. What is the value of n for

$$55 + 66 + 77 + 88 + 99 = 11 \times n?$$

(A) 29 **(B)** 31 **(C)** 33 **(D)** 35 **(E)** 37

Answer: (D)

10. If the value of fraction $\frac{p}{q}$ in simplest form is 25% greater than $\frac{2}{3}$, what is the value of $p+q$?

(A) 3 **(B)** 7 **(C)** 11 **(D)** 17 **(E)** 23

Answer: (C)

11. How many minutes are there in one day?

(A) 24 **(B)** 60 **(C)** 360 **(D)** 720 **(E)** 1440

Answer: (E)

12. The area of 1,800 square yards is equivalent to _____ square feet?

(A) 200 **(B)** 600 **(C)** $5,400$ **(D)** $16,200$ **(E)** $21,600$

Answer: (D)

13. Hana's dad is twice as old as Hana's brother. Hana's brother is three years older than Hana's sister, and Hana is four years younger than Hana's sister. If Hana's dad is 36 years old, how old is Hana?

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

Answer: (B)

14. If the area of a rectangle is 36 in^2, which of the following cannot be the perimeter of the rectangle?

(A) 74 in **(B)** 40 in **(C)** 30 in **(D)** 26 in **(E)** 22 in

Answer: (E)

15. For two classmates, Jimin and Jungkook, the distances from their houses to the school are 2 miles and 3 miles, respectively. What is the difference, in miles, between maximum and minimum possible distances between their houses?

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

Answer: (C)

16. If digits 1, 2, 3, 4, and 5 are each used once to form the least possible five-digit even number, what is the digit in the tens place?

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

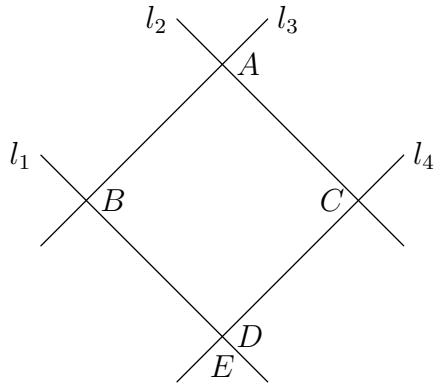
Answer: (A)

17. A square number can be written as the product of two same whole numbers. For example, 4 and 9 are square numbers as they can be written as 2×2 and 3×3, respectively. How many square numbers are there between 101 and 1000 ?

(A) 20 **(B)** 21 **(C)** 22 **(D)** 23 **(E)** 24

Answer: (B)

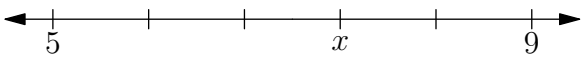
18. In the figure below, lines l_1 and l_2 are parallel and lines l_3 and l_4 are parallel. Which of the following angles could have a different measure from the rest of the angles? (Note: Figure not drawn to scale.)



(A) A **(B)** B **(C)** C **(D)** D **(E)** E

Answer: (E)

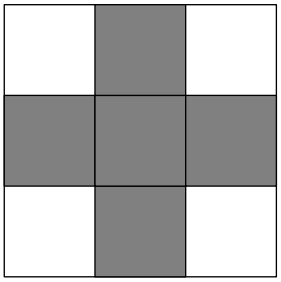
19. If the tick marks in the number line below are equally spaced, what is the value of x?



(A) $6\frac{3}{4}$ **(B)** $6\frac{4}{5}$ **(C)** $7\frac{2}{5}$ **(D)** $7\frac{3}{5}$ **(E)** $7\frac{3}{4}$

Answer: (C)

20. A solid $3 \times 3 \times 3$ cube is composed of 27 unit cubes that are not painted. If each face of the $3 \times 3 \times 3$ cube is painted with gray paint as shown below, how many unit cubes are partially painted?



(A) 14 **(B)** 16 **(C)** 18 **(D)** 20 **(E)** 22

Answer: (C)

Grade 4 Part 2

1. When the number A is divided by a number d, the quotient is 3 and the remainder is 4. When the number B is divided by d, the quotient is 5 and the remainder is 0. What is the remainder when the sum $A + B$ is divided by d?

Answer: 4

2. A is a whole number satisfying the following equation:

$$A + A - 100 - 100 = -3 \times A + 300.$$

What is the value of A?

Answer: 100

3. What is the measure, in degree, of an interior angle of a regular polygon with 180 sides?

Answer: 178

4. A truck is going from the point A to the point B at 35 mph (miles per hour) and another truck is going from B to A at 25 mph. If the distance between A and B is 300 miles, and the two trucks started at the same time, how many minutes does it take for them to meet?

Answer: 300

5. Using $\times, +, 2, 3, 5$, and 7, how many different numbers can we make according to the following rules?

Rule 1: Every number should be used without repetition allowed.

Rule 2: Any combination of the operations can be used with repetition.

For example, we can make $2 + 3 + 5 + 7 = 17$. However, we cannot make $2 + 3 + 5 = 10$.

Answer: 15

Grade 5 Part 2

1. Number 2021 can be written as the product of two 2-digit numbers. What is the sum of the two numbers?

Answer: 90

2. Each of the following four words represents a six-digit number and each different letter represents a different digit. What is the greatest possible sum of these four numbers?

LOTION
MOTION
NATION
OPTION

Answer: 3283192

3. There are two empty bottles whose volumes are exactly 4 liters and 9 liters, respectively. We can measure 5 liters of water using these two bottles in two steps: (1) Fill the 9-liter bottle, (2) Pour the water from the 9-liter bottle to the 4-liter bottle. Then we get 5 liters of the remaining water in the 9-liter bottle. What is the least number of steps to measure 6 liters of water using these two bottles? (Note: Emptying a bottle is also one step.)

Answer: 8

4. Some numbers can be written as the sum of consecutive natural numbers. For example, $15 = 4 + 5 + 6 = 7 + 8$. How many ways can 150 be written as the sum of two or more consecutive natural numbers?

Answer: 5

5. We are painting the following six tiles on the wall by using three colors (red, blue, and yellow). If we use different colors for tiles that share a side and we don't have to use all three colors, how many different ways can we paint these tiles?

Answer: 54