

**Instructions:**

- This evaluation is designed to help parents and the instructors better understand the students' current math levels and how the Prealgebra and other courses offered by ISC LLC can better serve the needs of the students.
- Students are not required to answer all the questions (some of the questions are challenging) but are encouraged to answer as much as they can.
- There is no time limit to complete this evaluation. However, parents should record the total time students used to complete it and report the time below.
- Calculator should NOT be used.
- Reference books or help from others should NOT be used.
- After completion, please scan this evaluation and send to:  
[whu@ivysmartconsulting.com](mailto:whu@ivysmartconsulting.com)

Student Name:

School:

Grade (as in September 2022):

Time used to complete:

Parent Name:

E-mail:

Phone:

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1.1

What is the value of  $(185 + 378 + 579) - (85 + 178 + 279)$ ?

1.2:

Compute

$$(1 + 2 + 3 + \cdots + 49 + 50) + (99 + 98 + 97 + \cdots + 51 + 50).$$

1.3:

The sum of the first 10,000 positive even numbers is how much more than the sum of the first 10,000 positive odd numbers?

2.1:

Compute

(a)  $92 - 45 \div (3 \cdot 5) - 5^2$

(b)  $8(6^2 - 3(11)) \div 8 + 3$

2.2:

How many perfect squares are between 1000 and 2000?

2.3:

Express  $2^{12}$  as a power of  $\frac{1}{8}$ .

3.1

What is the remainder when  $(99)(237)$  is divided by 9?

3.2

Compute each of the following:

- a.  $\text{lcm}[45, 60, 75]$
- b.  $\text{gcd}(970, 485, 1330)$

3.3

The least common multiple of 12, 15, 20, and  $k$  is 420. What is the least possible value of the positive integer  $k$ ?

4.1

Evaluate each of the following in simplest form.

a.  $\frac{3}{14} + \frac{5}{7} - \frac{1}{21}$

b.  $\frac{27 \cdot 14 \cdot 35}{42 \cdot 9 \cdot 28 \cdot 24}$

4.2

What is the sum  $2\frac{1}{5} + 3\frac{1}{3} + 5\frac{1}{2}$ ?

4.3

Compute  $\frac{2 + 4 + 6 + \dots + 36}{3 + 6 + 9 + \dots + 54}$ .

5.1

Simplify each of the following expressions:

a.  $4(2 - 3r) - \frac{1}{2}(4 + 24r)$

b.  $\frac{20z - 1}{3} - \frac{8z + 4}{12}$

5.2

What is the value of  $\frac{x - 2}{2x + 7}$  when  $x = \frac{1}{2}$ ?

5.3

What values of  $n$  satisfy the inequality  $\frac{1}{n} \geq 6$ ?

6.1

Compute the following quantities:

a.  $8.97 + 0.254$

b.  $0.025 \cdot 0.042$

6.2

Express each of the following fractions as a decimal:

a.  $\frac{11}{8}$

b.  $\frac{25}{33}$

6.3

What is the smallest positive integer  $k$  such that  $\frac{k}{660}$  can be expressed as a terminating decimal?

7.1

The ratio of cats to dogs at the pound is  $2 : 3$ . If there are 18 cats, then how many dogs are there?

7.2

For every \$3 Marisa spends, Andie spends \$5. Andie spends \$120 more than Marisa does. How many dollars does Andie spend?

7.3

When Paul crossed the finish line of a 60-meter race, he was ahead of Robert by 10 meters and ahead of Sam by 20 meters. Suppose Robert and Sam continue to race to the finish line without changing their rates of speed. By how many meters will Robert beat Sam?