

**CYU Test Review #2**

*Use when you get it right all by yourself*

**S** *Use when you did it all by yourself, but made a silly mistake*

**H** *Use when you could do it alone with a little help from teacher or peer*

**G** *Use when you completed the problem in a group*

**X** *Use when a question was attempted but wrong (get help)*

**N** *Use when a question was not even attempted*

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Symbols & Sets of Numbers	1 - 5	6 - 7	8
Fractions & Mixed Numbers	9 - 14	15	16
Exponents, Order of Operations, Variable Expressions, & Equations	17 - 18	19 - 20	22 - 27
Adding Real Numbers	28 - 31	32, 34	33
Subtracting Real Numbers	35, 36	37	38
Multiplying & Dividing Real Numbers	37, 40	41 - 44	45 - 48
Properties of Real Numbers	55	56, 57	49 - 54

**1.2 Insert <, >, or = in the appropriate space to make the following statements true.**

- |                        |                       |
|------------------------|-----------------------|
| 1. $8$ _____ $10$      | 4. $- -1 $ _____ $-1$ |
| 2. $-4$ _____ $-5$     | 5. $1.2$ _____ $1.02$ |
| 3. $ -7 $ _____ $ -8 $ |                       |

*Translate each statement into symbols.*

6. Four is greater than or equal to negative three.
7. 0.03 is less than 0.3.

*Given the following sets of numbers, list the numbers in each set that also belong to the set of:*

- |                    |                       |
|--------------------|-----------------------|
| a. Natural numbers | d. Rational numbers   |
| b. Whole numbers   | e. Irrational numbers |
| c. Integers        | f. Real numbers       |
8.  $\{-3, -1.6, 2, 5, \frac{11}{2}, 15.1, \sqrt{5}, 2\pi\}$

**1.3 Perform the indicated operations. Write results in lowest terms.**

9.  $\frac{8}{15} \cdot \frac{27}{30}$

10.  $\frac{7}{15} + \frac{5}{6}$

11.  $2\frac{3}{4} - 6\frac{5}{8}$

12.  $5 \div \frac{1}{3}$

Write the number as a product of prime factors.

13. 36

14. 120

15. Every fraction is part of a whole. Figure out what is missing to make a whole or 1.

$$\frac{1}{2} + \frac{1}{5} + ? = 1$$

16. If you have a rectangle with a length of  $1\frac{1}{3}$  meters and width of  $\frac{7}{8}$  meters.

a. Find the perimeter of the rectangle.

b. Find the area of the rectangle.

**1.4 Choose the correct answer for each statement.**

17. The expression  $6 \cdot 3^2 + 2 \cdot 8$  simplifies to

a. -52

b. 448

c. 70

d. 64

18. The expression  $68 - 5 \cdot 2^3$  simplifies to

a. -232

b. 28

c. 38

d. 504

Simplify each expression.

19.  $\left(\frac{2}{7}\right)^2$

20.  $3(1 + 2 \cdot 5) + 4$

21.  $\frac{4+|6-2|+8^2}{4+6 \cdot 4}$

Translate each word statement into symbols.

22. The difference of twenty and twelve is equal to the product of two and four.

23. The quotient of nine and two is greater than negative five.

Evaluate each expression if  $x = 6$ ,  $y = 2$ , and  $z = 8$ .

24.  $2x + 3y$

25.  $\frac{x}{y} + \frac{z}{2y}$

Decide whether the given number is a solution of the given equation.

26. Is  $x = 3$  a solution of  $7x - 3 = 18$ ?

27. Is  $x = 1$  a solution of  $3x^2 + 4 = x - 1$ ?

**1.5 Find the additive inverse of the opposite.**

28.  $-9$

29.  $\frac{2}{3}$

30.  $|-2|$

31.  $-|-7|$

Find the following sums.

32.  $-15 + 4$

33.  $\frac{1}{16} + \left(-\frac{1}{4}\right)$

34.  $-4.6 + (-9.3)$

**1.6 Perform the indicated operations.**

35.  $6 - 20$

36.  $-6 - (-11)$

37.  $-21 - 16 + 3(8 - 2)$

Evaluate each expression for  $x = 3$ ,  $y = -6$ , and  $z = -9$ .

38.  $2x^2 - y + z$

**1.7 Find the multiplicative inverse or reciprocal.**

39.  $-6$

40.  $\frac{3}{5}$

Simplify each expression.

41.  $6(-8)$

44.  $\frac{-6}{0}$

42.  $\frac{-18}{-6}$

45.  $-4^2 - (-3 + 5) \div (-1) \cdot 2$

43.  $\frac{4(-3) + (-8)}{2 + (-2)}$

46. If  $x = -5$  and  $y = -2$ , evaluate each expression for  $x^2 - y^4$ .

Translate each phrase into an expression. Use  $x$  to represent a number.

47. The product of  $-7$  and a number.

48. Subtract a number from  $-20$ .

**1.8 Name the property illustrated.**

49.  $-6 + 5 = 5 + (-6)$

52.  $6(8 + 5) = 6 \cdot 8 + 6 \cdot 5$

50.  $3(8 - 5) = 3 \cdot 8 - 3 \cdot (5)$

53.  $4 \cdot \frac{1}{4} = 1$

51.  $2 + (3 + 9) = (2 + 3) + 9$

54.  $8 + 0 = 8$

Use the distributive property to write each expression without parentheses.

55.  $5(y - 2)$

56.  $-(7 - x + 4z)$

57.  $-4(3x + 5) - 7$

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**CYU Reflection:** How far can you go: basic, intermediate, or advanced?

**Rate your mastery level!**

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

