



## CHRISTOPHER COLUMBUS

A Marist Brothers High School 1958



Dear Student,

Welcome to Algebra 1! Algebra 1 is the branch of mathematics which uses letters and symbols to express relationships between quantities in terms of formulas, equations, etc. Algebraic symbolism and operations enter into nearly all branches of science, including the various subdivisions of mathematics. Topics included are fundamental concepts of modern mathematics, positive and negative numbers, irrational numbers, and linear and quadratic equations.

This summer math packet addresses the material that you were exposed to in previous math courses. It serves two purposes:

1. It will allow you to remain mathematically fresh during the summer.
2. It will allow you to enter Algebra 1 prepared, and ready, with a review of previous mathematical concepts. To receive credit, all work must be shown. All work must be done in pencil, neat and organized.

Grading:

- The summer assignment is due on the first day of your mathematics class
- All questions will be reviewed by your teacher the first week of school.
- A test will be given on the material in the summer packet the second week of school.

We hope that you have an enjoyable summer and return ready for Algebra 1!



ACCREDITED BY COGNIA AND A MEMBER OF THE NATIONAL CATHOLIC EDUCATION ASSOCIATION

# Summer Math Packet (Incoming 9th Grade Algebra)

Name \_\_\_\_\_

**MULTIPLE CHOICE.** Choose the one alternative that best completes the statement or answers the question.

List all the elements of B that belong to the given set.

1)  $B = \left\{ 16, \sqrt{5}, -15, 0, \frac{5}{6}, -\frac{6}{5}, 6.7, \sqrt{4} \right\}$  1) \_\_\_\_\_

Integers

A) 16, 0

B) 16, 0,  $\sqrt{4}$

C) 16, -15, 0

D) 16, -15, 0,  $\sqrt{4}$

2)  $B = \left\{ 20, \sqrt{6}, -5, 0, \frac{1}{3}, -3, 4.3, \sqrt{9} \right\}$  2) \_\_\_\_\_

Whole numbers

A) 20, -5, 0,  $\sqrt{9}$

B) 20, 0,  $\sqrt{9}$

C) 20, -5, 0

D) 20, 0

3)  $B = \left\{ 5, \sqrt{6}, -10, 0, \frac{0}{8}, \sqrt{25}, 0.57 \right\}$  3) \_\_\_\_\_

Rational numbers

A)  $\sqrt{6}, \frac{0}{8}, 0.57$

B) 5, 0,  $\sqrt{25}$

C)  $\sqrt{6}, \sqrt{25}$

D) 5, -10, 0,  $\frac{0}{8}, \sqrt{25}, 0.57$

4)  $B = \left\{ 7, \sqrt{7}, -2, 0, \frac{0}{1}, \sqrt{4}, 0.69 \right\}$  4) \_\_\_\_\_

Irrational numbers

A)  $\sqrt{7}, \sqrt{4}$

B)  $\sqrt{7}$

C)  $\sqrt{7}, 0.69$

D)  $\sqrt{7}, \sqrt{4}, 0.69$

Tell which set or sets the number belongs to: natural, whole, integer, rational, irrational, real.

5)  $\pi$  5) \_\_\_\_\_

A) rational

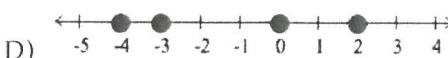
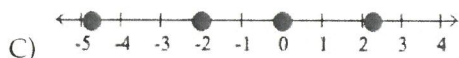
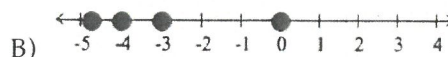
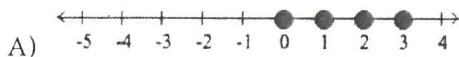
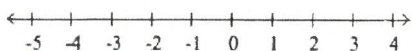
B) real, irrational

C) real, integer

D) irrational

Plot the points in the set on a real number line.

6)  $\{-4.75, -2, 0, 2.25\}$  6) \_\_\_\_\_



Replace the ? with the correct symbol  $>$ ,  $<$ ,  $=$ .

7)  $-5 ? 0$

A)  $<$

B)  $=$

C)  $>$

7) \_\_\_\_\_

8)  $-9 ? -7$

A)  $<$

B)  $=$

C)  $>$

8) \_\_\_\_\_

9)  $\frac{9}{3} ? \frac{12}{4}$

A)  $<$

B)  $>$

C)  $=$

9) \_\_\_\_\_

10)  $|-9| ? |-13|$

A)  $=$

B)  $<$

C)  $>$

10) \_\_\_\_\_

Evaluate the expression.

11)  $|-2|$

A) 2

B) 4

C) -2

D) 0

11) \_\_\_\_\_

12)  $\left| -\frac{1}{5} \right|$

A) 5

B)  $\frac{1}{5}$

C)  $-\frac{1}{5}$

D)  $\frac{1}{10}$

12) \_\_\_\_\_

Find the sum.

13)  $15 + (-8)$

A) 23

B) -7

C) -23

D) 7

13) \_\_\_\_\_

14)  $-12 + (-4)$

A) -16

B) -8

C) 16

D) 8

14) \_\_\_\_\_

15)  $3 + (-3)$

A) 0

B) -3

C) 3

D) 6

15) \_\_\_\_\_

16)  $25 + (-20) + 11 + (-3)$

A) 59

B) 13

C) -3

D) -9

16) \_\_\_\_\_

Write the positive or negative number for the following.

17) The stock experienced a \$355 loss.

A) -355

B) +355

17) \_\_\_\_\_

18) They hiked 356 feet above sea level.

A) -356

B) +356

18) \_\_\_\_\_

Solve the problem.

19) Lauren scored 6 points in her basketball game on Monday, 11 on Wednesday, 8 on Friday, and 3 on Saturday. Find her total points scored for the week.

A) 28 points

B) 29 points

C) 25 points

D) 27 points

19) \_\_\_\_\_



Find the product, and write in lowest terms, if necessary.

32)  $\frac{10}{9} \cdot \frac{4}{5}$

32) \_\_\_\_\_

A)  $\frac{49}{45}$

B)  $\frac{8}{9}$

C)  $\frac{6}{9}$

D)  $\frac{17}{9}$

33)  $4 \cdot \frac{161}{18}$

33) \_\_\_\_\_

A)  $\frac{115}{9}$

B)  $\frac{593}{18}$

C)  $\frac{322}{9}$

D)  $\frac{324}{9}$

Solve the problem.

34) In an Algebra course of 60 students,  $\frac{2}{5}$  of the students decided to take the optional final. Of

34) \_\_\_\_\_

those taking the final,  $\frac{1}{3}$  received an A on it. How many students earned an A on the final?

A) 24

B) 6

C) 8

D) 12

Find the quotient, and write in lowest terms, if necessary.

35)  $\frac{28}{5} \div \frac{2}{5}$

35) \_\_\_\_\_

A) 15

B)  $\frac{25}{2}$

C) 13

D) 14

36)  $-\frac{3}{10} \div 7$

36) \_\_\_\_\_

A)  $-\frac{3}{70}$

B)  $-\frac{3}{17}$

C)  $-\frac{3}{10}$

D) None of these

Find the sum or difference, and write in lowest terms, if necessary.

37)  $-\frac{1}{7} + \frac{2}{7}$

37) \_\_\_\_\_

A)  $-\frac{1}{7}$

B)  $\frac{1}{7}$

C)  $-\frac{3}{7}$

D)  $\frac{3}{7}$

38)  $-\frac{3}{10} + \left(-\frac{1}{5}\right)$

38) \_\_\_\_\_

A)  $\frac{1}{10}$

B)  $\frac{1}{2}$

C)  $-\frac{1}{2}$

D)  $-\frac{1}{10}$

Perform the indicated operations.

39)  $-6.5 + 20.9$

39) \_\_\_\_\_

A) -27.4

B) -14.4

C) 14.4

D) 27.4

40)  $0.09 \times 0.3$

A) 2.7

B) 0.0027

C) 0.027

D) 0.27

40) \_\_\_\_\_

**Evaluate the exponential expression.**

41)  $9^3$

A) 27

B) 19,683

C) 729

D) 512

41) \_\_\_\_\_

42)  $\left(\frac{2}{3}\right)^2$

A)  $2\frac{2}{3}$ B)  $\frac{4}{9}$ C)  $\frac{4}{3}$ D)  $\frac{9}{4}$ 

42) \_\_\_\_\_

**Evaluate the expression.**

43)  $21 + 11 \cdot 27$

A) 864

B) 59

C) 318

D) 258

43) \_\_\_\_\_

44)  $9^2 - 4 \cdot 8$

A) 200

B) 360

C) 616

D) 49

44) \_\_\_\_\_

45)  $\frac{52 \cdot (9 - 6) - 6}{3^2 - 3}$

A) 50

B) 26

C) 27

D) 25

45) \_\_\_\_\_

**Use the Distributive Property to remove the parentheses.**

46)  $8(y + 9)$

A)  $8y + 17$ B)  $8y + 9$ C)  $y + 72$ D)  $8y + 72$ 

46) \_\_\_\_\_

47)  $-(-2m + 4n - 8)$

A)  $2m - 4n + 8$ B)  $-2m + 4n + 8$ C)  $-2m + 4n - 8$ D)  $2m - 4n - 8$ 

47) \_\_\_\_\_

**Simplify the expression by combining like terms, if possible.**

48)  $2y - y - 6y$

A)  $-5y$ B)  $-4y - y$ C)  $-4y$ D)  $-3y$ 

48) \_\_\_\_\_

49)  $5x + 3 + 3x - 9$

A) 2

B)  $2x - 6$ C)  $8x - 6$ D)  $2x$ 

49) \_\_\_\_\_

50)  $4x^2 - 2x + 3 + 7x + 5 + 6x^2$

A)  $10x^4 + 5x^2 + 8$ B)  $23x^3$ C)  $9x^2 + 11x + 3$ D)  $10x^2 + 5x + 8$ 

50) \_\_\_\_\_

