



Immaculate Conception School

Name _____

Summer, 2026

Summer Review Assignment for Incoming Honors Algebra I Students

Dear future Students of ICS Honors Algebra,

Please solve the attached problems. Show original problems and all work for credit. All of the concepts included in this assignment are basic to all of your future studies of mathematics, mastery of the topics is expected. If there is something which is not familiar to you or that you have forgotten, it is part of the assignment that you seek out an appropriate source of help.

Remember:

- This assignment will be graded and included in the 1st marking period.
- Show all work, use extra loose leaf paper if necessary.
- Assignment is due the first day of school – including half days!
- You will be assessed -10% per late day.

Have a terrific summer, I look forward to working with you next year.

Sincerely,

Mrs. Parker

BIG Ideas Entering Algebra 1

You should be able to:

- A. Apply the order of operations to integer computations.
 - B. *Add, subtract, multiply and divide integers.*
 - C. *Work with fractions.*
 - D. *Simplify algebraic expressions.*
 - E. *Solve equations that contain multiple steps (including fractional coefficients).*
 - F. *Create algebraic equations from verbal expressions.*
 - G. *Evaluate expressions.*
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A. You should be able to: Apply the Order of Operations to integer computations. Refer to video tutorials at <http://www.khanacademy.org/>

Evaluate the following expressions using Order of Operations (PEMDAS)

1. $4 \cdot 12 + 8 - 10 \div 5$

2. $8(3+4) - 3 \cdot 2 \div (12-9)$

3. $(5^2 + (12-8)^2) - 17$

Insert sets of parentheses to make the following equation true. Then work through Order of Operations to support your answer.

4. $7 + 14 \div 9 - 6 = 7$

B. You should be able to: Add, subtract, multiply and divide integers. Refer to video tutorials at

<http://www.khanacademy.org/>

Simplify the following expressions without a calculator. Show work when necessary.

5. $27 - 12 =$ _____

6. $-13 - 9 =$ _____

7. $27 - 100 =$ _____

8. $-15 - (-18) =$ _____

9. $-10 \cdot (-3 \cdot 6) =$ _____

10. $(-5)^2 =$ _____

11. $-44 \div 4 =$ _____

12. $\frac{-12}{-4} =$ _____

13. $81 \div (-9) =$ _____

C. You should be able to: Work with fractions.

Refer to video tutorials at <http://www.khanacademy.org/>

Solve the following; make sure to show all of your work.

14. $\frac{3}{2} \cdot \frac{6}{5} \cdot \frac{15}{30} =$ _____

15. $\frac{3}{5} + \frac{5}{8} + \frac{1}{4} =$ _____

16. $\frac{3}{4} \div 8 =$ _____

17. $\frac{5}{4} - \frac{2}{3} =$ _____

18. $\frac{1}{2} \cdot \frac{5}{8} \cdot \frac{4}{5} =$ _____

19. $-\frac{16}{9} \div 8 =$ _____

20. $-\frac{3}{8} \div \frac{3}{4} =$ _____

21. $5 - \frac{2}{3} =$ _____

D. You should be able to: Simplify algebraic expressions.
Refer to video tutorials at <http://www.khanacademy.org/>

Simplify the following algebraic expressions. Show all work.

22. $-2(3x+2) = \underline{\hspace{2cm}}$

23. $3(2x-3)+(x-5) = \underline{\hspace{2cm}}$

24. $4(3x-2)-(5x-6) = \underline{\hspace{2cm}}$

25. $\frac{3}{4}(4x+12) = \underline{\hspace{2cm}}$

E. You should be able to: Solve equations.

Refer to video tutorials at <http://www.khanacademy.org/>

Solve the following equations. Show all work.

26. $x+12=62$

27. $48-x=23$

28. $x-2=14+6$

29. $13x=195$

30. $6y-11=25$

31. $8=\frac{x}{5}$

32. $\frac{x}{42}=\frac{6}{7}$

33. $3x+7=2x-1$

34. $-8 + 7x - 2 = 3x + 4 + 2x$

35. $-2 - 3(1 - x) = 4(-2x + 7)$

36. $-\frac{1}{2} - \frac{5}{6}x = \frac{3}{4}$

F. You should be able to: Create algebraic equations from verbal expressions.

Refer to video tutorials at <http://www.khanacademy.org/>

Write an algebraic equation for each. Then, solve each equation showing all work.

34. Three times a number, increased by 4, is 25. What is the number?

35. A number divided by .6 is 14. What is the number?

36. One third of a number is equal to 24. What is the number?

37. Eight less than twice a number is twenty. What is the number?

Write an algebraic equation for each of the following. Then solve each percent problem showing all work.

38. What number is 35% of 140?

39. 52 is 13% of what number?

40. 154 is what % of 175?

Solve the following word problems by setting up an algebraic equation. Then, solve the equations showing all work.

41. A \$180 leather jacket is going on sale for a 25% discount. How much will the jacket cost on sale?

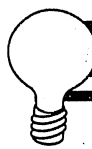
42. Mike bought 3 CD's at a cost of \$13.99 for each CD. What will he pay in total including a 7% sales tax?

G. You should be able to: Evaluate expressions.

Refer to video tutorials at <http://www.khanacademy.org/>

43. Complete the following table by evaluating each expression for the given values.

Expression	$x=4$	$x=-3$
$3x+1$	$3(4)+1=13$	$3(-3)+1=-8$
x^2		
$2x$		
$x+6$		



Check What You Learned

Preparing for Algebra

Find the value of each expression.

- | a | b | c |
|----------------------------------|-------------------------------|------------------------------|
| 1. $2 \times (7 - 3)$ _____ | $3 + 4 \times 2 - 5$ _____ | $12 - 4 \times 3$ _____ |
| 2. $20 \div 5 + 16 \div 4$ _____ | $7 \times 6 \div 3 - 1$ _____ | $(45 \div 9) \times 2$ _____ |

Name the property shown by each statement.

- | | | |
|------------------------------------|---|------------------------|
| 3. $7 \times 2 = 2 \times 7$ _____ | $3 \times (5 \times 4) = (3 \times 5) \times 4$ _____ | $0 \times 8 = 0$ _____ |
| 4. $36 \times 1 = 36$ _____ | $24 + 19 = 19 + 24$ _____ | $55 + 0 = 55$ _____ |

Rewrite each expression using the Distributive Property.

5. $3 \times (5 + 1) =$ _____ $(4 \times 6) + (4 \times 5) =$ _____ $7 \times (3 + 6) =$ _____

Replace a with 4, b with 2, and c with 5. Then find the value of each expression.

6. $a \times (b + c) =$ _____ $(c \times a) + (c \times b) =$ _____ $b \times (a + c) =$ _____

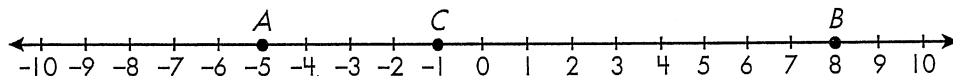
Identify each of the following as an expression or an equation.

7. $7 + x$ _____ $9 + 4 = 13$ _____ $85 \times n$ _____

For each term below, identify the coefficient (C) and the variable (V).

8. $9y$ C _____ V _____ $4b$ C _____ V _____ m C _____ V _____

Use the number line to help answer the questions about integers.



Use integers to name each point on the number line.

9. A _____ B _____ C _____

Use one of the two symbols $>$ or $<$ to compare each pair of numbers.

10. 3 _____ 9 -9 _____ -4 -5 _____ 0

Add.

11. $-8 + 5$ _____ $-3 + (-5)$ _____ $-8 + 8$ _____



Check What You Learned

Preparing for Algebra

CHAPTER 13 POSTTEST

Solve each equation.

a

12. $x - 5 = 3$ _____

13. $x - 19 = 8$ _____

14. $b - 7 = 0$ _____

15. $\frac{x}{3} = 3$ _____

16. $b \times 8 = 12$ _____

17. $\frac{n}{4} = 4$ _____

b

$x + 5 = 8$ _____

$x - 12 = 4$ _____

$n + 3 = 3$ _____

$n \times 5 = 5$ _____

$\frac{x}{3} = 8$ _____

$n \times 8 = 8$ _____

c

$y - 4 = 0$ _____

$n + 8 = 8$ _____

$x + 2 = 8$ _____

$\frac{b}{2} = 1$ _____

$a \times 2 = 3$ _____

$b \times 3 = 18$ _____

Write each power as a product of factors.

18. 3^5 _____

12^2 _____

6^4 _____

Use exponents to write these numbers.

19. $2 \times 2 \times 2 \times 2 \times 2$ _____

$8 \times 8 \times 8$ _____

25×25 _____

Evaluate each expression.

20. x^4 if $x = 2$ _____

b^3 if $b = 7$ _____

x^3 if $x = 3$ _____

Name the point for each ordered pair, and find the ordered pair for each point.

a

21. $(6, 7)$ _____

22. $(10, 5)$ _____

23. $(8, 3)$ _____

24. $(1, 8)$ _____

25. $(2, 4)$ _____

b

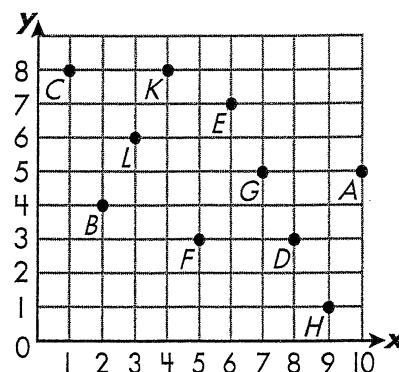
F _____

G _____

K _____

H _____

L _____



Final Test Chapters 1–13

Complete as indicated.

a

$$\begin{array}{r} 1. \quad 238 \\ \quad 463 \\ + 519 \\ \hline \end{array}$$

b

$$\begin{array}{r} 4763 \\ - 2188 \\ \hline \end{array}$$

c

$$\begin{array}{r} 248 \\ \times 32 \\ \hline \end{array}$$

d

$$\begin{array}{r} 432 \\ \times 218 \\ \hline \end{array}$$

2.

$$\begin{array}{r} 0.687 \\ 8.9 \\ + 3.925 \\ \hline \end{array}$$

$$\begin{array}{r} 10.65 \\ - 2.319 \\ \hline \end{array}$$

$$\begin{array}{r} 68.3 \\ \times 7.24 \\ \hline \end{array}$$

$$0.89 \overline{)3.8448}$$

Estimate.

3.

$$\begin{array}{r} 588 \\ + 407 \\ \hline \end{array}$$

$$\begin{array}{r} 874 \\ - 223 \\ \hline \end{array}$$

$$\begin{array}{r} 385 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 615 \\ \times 28 \\ \hline \end{array}$$

Complete as indicated. Give answers in simplest form.

4.

$$\begin{array}{r} \frac{3}{5} \\ + \frac{2}{3} \\ \hline \end{array}$$

$$\begin{array}{r} 4\frac{1}{3} \\ - 2\frac{3}{4} \\ \hline \end{array}$$

$$\frac{2}{3} \times 2\frac{1}{4}$$

$$\frac{4}{5} \div \frac{2}{3}$$

Find the least common multiple (LCM) and greatest common factor (GCF).

5. 8 and 12

LCM _____

GCF _____

3 and 7

LCM _____

GCF _____

4 and 8

LCM _____

GCF _____

12 and 18

LCM _____

GCF _____

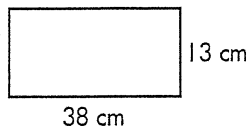
Final Test Chapters 1–13

Complete the following.

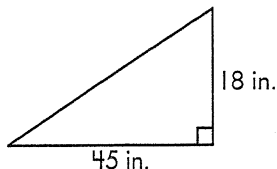
6. 83% of 6 = _____ 34% of 25 = _____ 125% of 80 = _____ 4% of 37 = _____

Complete as indicated.

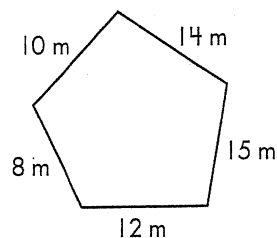
7.



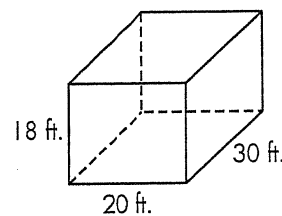
area = _____
_____ sq. cm



area = _____
_____ sq. in.



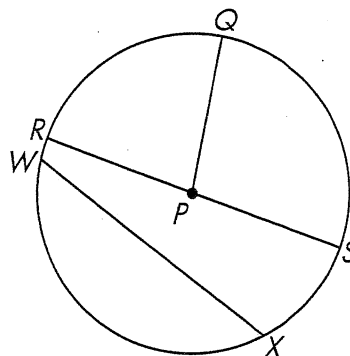
perimeter = _____
_____ m



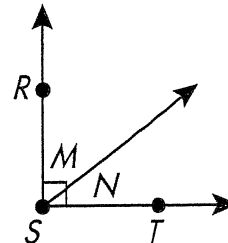
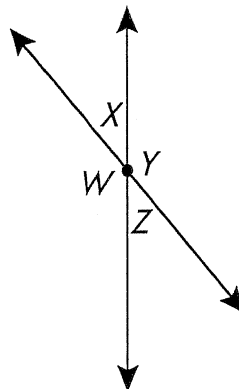
volume = _____
_____ cu. ft.

Use the circle to answer the questions.

8. Name the circle. _____
9. The origin of the circle is _____.
10. A radius of the circle is _____.
11. A diameter of the circle is _____.
12. Specify a chord that is not a diameter _____.

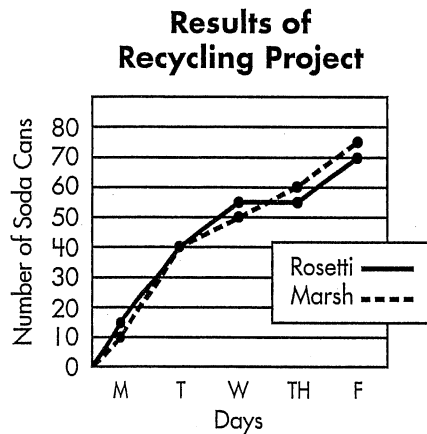
Answer the questions about the angles below. $\angle m = 55^\circ$, $\angle x = 35^\circ$

13. $\angle Y =$ _____
14. $\angle Z =$ _____
15. $\angle W =$ _____
16. $\angle N =$ _____
17. Which $\angle$ s are obtuse? _____
18. Which $\angle$ s are acute? _____
19. Which $\angle$ is right? _____



Final Test Chapters 1–13

Complete as indicated.



Mr. Rosetti's homeroom and Ms. Marsh's homeroom collected soda cans for a week-long recycling project. The results are shown on the line graph at the left.

- 20.** On Monday, which homeroom collected the most cans? _____
- 21.** On what day had each homeroom collected the same number of cans? _____
- 22.** On what day did Mr. Rosetti's homeroom collect no cans? _____
- 23.** What was the total number of cans collected? _____

- 24.** Draw a stem and leaf plot for the following set of numbers.
45, 37, 45, 52, 47, 33, 54, 47, 36, 41, 47

Find the mean, median, mode, and range for the numbers at the left.

mean _____

median _____

mode _____

range _____

Solve these equations.

a

25. $x - 5 = 4$ _____

26. $x - 17 = 8$ _____

27. $a \times 4 = 6$ _____

28. $\frac{a}{2} = 4$ _____

b

$x + 6 = 10$ _____

$x - 10 = 0$ _____

$a \times 3 = 9$ _____

$\frac{a}{3} = 1$ _____

c

$x - 7 = 0$ _____

$x + 9 = 9$ _____

$a \times 2 = 1$ _____

$\frac{a}{2} = 2$ _____

Name the point for each ordered pair.

29. $(6, 4)$ _____

30. $(1, 8)$ _____

31. $(9, 1)$ _____

32. $(1, 4)$ _____

33. $(3, 5)$ _____

Find the ordered pair for each point.

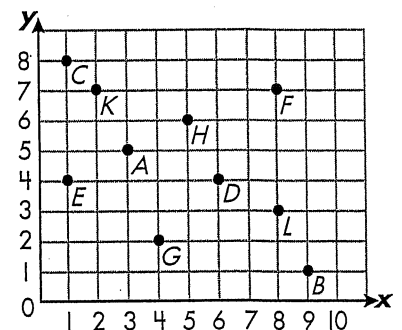
34. F _____

35. G _____

36. K _____

37. H _____

38. L _____



Final Test Chapters 1–13**SHOW YOUR WORK**

Solve each problem.

39. South Valley Middle School has 1,275 students. North Valley Middle School has 1,181 students. How many students do the schools have combined?

Together the two schools have _____ students.

South Valley has _____ more students than North Valley.

40. Christopher has $2\frac{3}{4}$ pounds of candy. He gave $\frac{2}{3}$ of it to Taylor. How many pounds of candy did Christopher give to Taylor?

Christopher gave _____ of candy to Taylor.

41. Danielle has $4\frac{3}{8}$ yards of ribbon. She cut off a piece of ribbon $2\frac{3}{4}$ yards long and gave it to Adriana. How much ribbon does Danielle have left?

Danielle has _____ yards of ribbon left.

42. The sixth-grade classes at East Side Middle School bought a flag for every classroom in the school. They spent \$350.90. Each flag cost \$15.95. How many flags did they buy?

They bought flags for _____ classrooms.

43. The municipal swimming pool is 50 meters long, 25 meters wide, and is filled to a uniform depth of 3 meters. What is the volume of water in the pool?

The volume of water is _____ cubic meters.

44. Julia has 3 red marbles, 4 blue marbles, 3 yellow marbles, and 6 black marbles in a bag. She takes one marble out of the bag at random.

The probability that it is a black marble is _____.

The probability that it is a yellow marble is _____.

The probability that it is not a red marble is _____.

45. Malik got 28 questions correct out of 35 on a recent test. What percentage did Malik get correct?

Malik got _____ correct.

39.

40.

41.

42.

43.

44.

45.