

# ACHS Geometry 2019 Summer Packet Problems

Name: \_\_\_\_\_

Date turned in: \_\_\_\_\_ \*Teacher sign to verify date: \_\_\_\_\_

Due to your Geometry teacher: **SEPTEMBER 10, 2019**

## INFORMATION/DIRECTIONS:

- All questions in the practice section must be complete and correct. You must return in September knowing how to do all the material in this packet.
- Work, where applicable, will be shown in the space provided on the question pages or on separate paper. If you use separate paper, label the work with the question number. Final answers must be entered in the boxes provided by the questions.
- You will be quizzed on this material upon your return to school and at any point during the school year.
- If you do not understand the material, you must find a way to understand it. There are examples provided for each section as well as suggested websites.
- Contact Mr. J-P at [wjpierre@roselleschools.org](mailto:wjpierre@roselleschools.org) or [kfischer@roselleschools.org](mailto:kfischer@roselleschools.org) if you need further information. Please be aware it may take some time to get back to you.

# SHOW ALL WORK

## PROBLEMS TABLE OF CONTENTS CHECKLIST

### SECTION 1: FRACTIONS

<https://www.mathsisfun.com/definitions/fraction.html>  
<https://www.mathsisfun.com/fractions-menu.html>

### SECTION 2: RATIO & PROPORTION

<https://www.mathsisfun.com/definitions/ratio.html>  
<https://www.mathsisfun.com/numbers/ratio.html>  
<https://www.mathsisfun.com/definitions/proportion.html>  
<https://www.mathsisfun.com/algebra/proportions.html>

### SECTION 3: INTEGERS & SIGNED REAL NUMBERS

<https://www.mathsisfun.com/definitions/integer.html>  
<https://www.mathsisfun.com/whole-numbers.html>  
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<https://www.mathsisfun.com/numbers/real-numbers.html>

### SECTION 4: EXPONENTS & RADICALS

<https://www.mathsisfun.com/definitions/exponent.html>  
<https://www.mathsisfun.com/exponent.html>  
<https://www.mathsisfun.com/definitions/radical.html>  
<https://www.mathsisfun.com/square-root.html>  
<https://www.mathsisfun.com/numbers/nth-root.html>

### SECTION 5: ORDER OF OPERATIONS

<https://www.mathsisfun.com/definitions/order-of-operations.html>  
<https://www.mathsisfun.com/operation-order-pemdas.html>

### SECTION 6: PROPERTIES OF ALGEBRA

<https://www.mathsisfun.com/associative-commutative-distributive.html>  
<https://www.mathsisfun.com/sets/real-number-properties.html>  
<https://www.mathsisfun.com/algebra/inequality-properties.html>

### SECTION 7: SOLVING EQUATIONS

<https://www.mathsisfun.com/definitions/equation.html>  
<https://www.mathsisfun.com/algebra/index.html>

### SECTION 8: PARCC PRACTICE (see website for additional practice)

<https://parcc.pearson.com/practice-tests/math/>

## SECTION 1: FRACTION PRACTICE

Show all work here or on separate paper and record answers in box.

Write the following as fractions in reduced form.

1. 0.35      2. 75%      3. 9      4.  $0.\overline{6}$

Prime factor each number.

5. 17                                  6. 124  
7. 117                                8. 144

Simplify each fraction if possible.

9.  $-\frac{36}{60}$       10.  $\frac{20}{35}$

Multiply the following fractions.

11.  $-\frac{1}{2} \times \frac{2}{3} =$       12.  $-\frac{2}{7} \times \frac{3}{7} =$

Divide the following fractions.

13.  $\frac{1}{2} \div \frac{2}{3} =$       14.  $\frac{3}{4} \div \frac{2}{7} =$

1.	10.
2.	11.
3.	12.
4.	13.
5.	
6.	
7.	
8.	
9.	

## SECTION 2: RATIO & PROPORTION PRACTICE

Show all work here or on separate paper and record answers in the box.

15. Write each given ratio as a simplified ratio using "to", a colon ":", and as a fraction.

RATIO	3 to 12	15 to 36	35:7	20:16	18/12	8/28
"to"						
":"						
Fraction						

15.
16.
17.
18.

Solve each proportion.

16.  $\frac{70}{x} = \frac{15}{21}$

17.  $\frac{c+1}{5} = \frac{1}{5}$

18.  $\frac{0.9}{1.5} = \frac{x}{0.5}$

### SECTION 3: INTEGER & SIGNED NUMBER PRACTICE

Show all work here or on separate paper and record answers in box.

Perform the indicated operations without a calculator.

19.  $-2 + (-5) =$

20.  $6 + (-4) =$

21.  $-11 + 9 =$

22.  $-5 - (-2) =$

23.  $6 - (-4) =$

24.  $3 - 9 =$

25.  $3(-9) =$

26.  $-6(4) =$

27.  $36 \div (-4) =$

28.  $-9 \div (-3) =$

29.  $16 \div (4) =$

30.  $5.4 + (-9.7) =$

31.  $-\frac{1}{2}\left(\frac{1}{2}\right) =$

32.  $-\frac{1}{2}\left(-\frac{1}{3}\right) =$

19.	30.
20.	31.
21.	32.
22.	
23.	
24.	
25.	
26.	
27.	
28.	
29.	

### SECTION 4: EXPONENT & RADICAL PRACTICE

Show all work here or on separate paper and record answers in box.

Perform the indicated operations. Write your answer as an integer or simplified radical.

33.  $6^3 =$

34.  $7^2 =$

35.  $(-2)^2 =$

36.  $\sqrt[3]{27} =$

37.  $\sqrt{49} =$

38.  $\sqrt{72} =$

33.	37.
34.	38.
35.	
36.	

### SECTION 5: ORDER OF OPERATIONS PRACTICE

Show all work here or on separate paper and record answers in box.

Perform the indicated operations.

39.  $5 + 16 \div 2 - 1 =$

40.  $-24 \div (-6)(-2)$

41.  $\frac{5(16-5)-1}{4^2-7} =$

42.  $\frac{6^2-3^2}{6-3} =$

39.

40.

41.

42.

### SECTION 6: PROPERTIES OF ALGEBRA PRACTICE

Name the property shown by each statement:

43.  $17 + 22 = 22 + 17$

\_\_\_\_\_

44.  $12 \times 46 = 46 \times 12$

\_\_\_\_\_

45.  $89 + 0 = 89$

\_\_\_\_\_

46.  $89 \times 1 = 89$

\_\_\_\_\_

### SECTION 7: SIMPLIFYING & SOLVING EXPRESSIONS/EQUATIONS TUTORIAL

Substitute and evaluate:  $a = 5$ ,  $b = 3$ ,  $c = 4$ ,  $p = \frac{1}{2}$

47.  $\frac{a+b}{c} =$

48.  $p(a + b - c) =$

49.  $a^2 - b^2c =$

47.

53.

48.

54.

49.

55.

50.

56.

51.

57.

52.

Solve each equation for the variable.

50.  $5x + 3 = -12$

51.  $3(x - 2) = 18$

52.  $7x - 8x + 4 = 5x - 2$

53.  $(6x - 8) - (5x + 9) = 3$

Solve each equation for the variable indicated. Note: These are literal equations.

54.  $2x + 3y = 8$  for  $y$

55.  $\frac{x+y}{3} = 5$  for  $x$

56.  $V = \pi r^2 h$  for  $r$

57.  $A = \frac{1}{2} h(b + c)$  for  $b$

**SECTION 8: PARCC PRACTICE**

58. The surface area of a cylinder  $420\pi \text{ cm}^2$ , and its radius is 10 cm.

a. Solve the equation  $S = 2\pi r^2 + 2\pi r h$  for the height.

b. What is the volume of the cylinder?

59. What are the solutions to the equation  $\frac{3}{4}x^2 = 48$ ?

Enter your answers in the space provided. Enter **only** your answers.

$x =$    $\text{ and } x =$

**Project :**

To access the project, click [here](#)