



BLUE KNIGHTS

Southington High School

720 Pleasant Street • Southington, CT 06489

Phone: (860) 628-3229

Fax: (860) 628-3397

Home Page: www.southingtonschools.org

Principal
Frank Pepe

Assistant Principals
Richard Aroian
Michael Halloran
Diane Holst-Grubbe
Leah Clark

Dear Students,

Enclosed you will find a comprehensive set of problems which reflect critical math skills that must be mastered prior to entering your Geometry class at Southington High School. You are encouraged to develop a wide range of ways for finding the correct answer, including techniques both with and without the aid of a calculator*. Working with a friend, sibling, or parent might be a helpful way to complete this assignment!

On the second day of school, your teachers will check your packets for completion and count it as your first three homework grades. In order to receive full credit for the assignment, you must attempt each problem and show all work used to complete it. The answers are provided as a means to assess your own work. During the first few days of school, your teachers will provide you with an opportunity to review your work from this packet. Soon thereafter, you will be given your first quiz that addresses these skills.

Our goal is for you to have a successful and enjoyable transition into your Geometry class at Southington High School. This packet is meant to facilitate this process. Try your best and remember your teachers will help you upon your return.

Sincerely,

David Kowalchuk
Mathematics Department Chair
Southington High School
860-628-3229 ext 11243
Distance Learning # (401) 315-8897

Frank Pepe
Principal

*Reminder: A graphing calculator is an important tool used within this course. Students are strongly encouraged to obtain one for their personal use. Copies of this packet may be found on the Southington High School Website. Go to www.southingtonschools.org and click on the link to Parent Resources



(For students who will be entering Geometry this coming school year)

(Do NOT use a calculator until directions say to use one)

Evaluate.

1. $5.125 + 0.78 =$ _____

2. $130.5 - 1.09 =$ _____

3. $1.2 * 2.5 =$ _____

4. $9.6 \div 0.02 =$ _____

Evaluate. Write the answer in simplest form.

5. $\frac{1}{8} + \frac{5}{8} =$

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

7. $\frac{4}{5} * \frac{3}{10} =$

8. $\frac{7}{8} \div \frac{1}{2} =$

Evaluate.

9. $|-5.6| =$

10. $|-18| =$

11. $|3| =$

12. $|9.9| =$

13. $-3 + 16 =$

14. $-8 - 4 =$

15. $(-5)(-9) =$

16. $100 \div (-4) =$

Compare the two numbers. Write the answer using <, >, =.

17. -4 _____ -8

18. -6 _____ 6

19. -1.5 _____ -1.9

20. 3.08 _____ 3.17

A Calculator can be used for the rest of the problems.

Write the fraction as a decimal. For repeating decimals, also round to the nearest hundredth for an approximation.

21. $\frac{2}{5} =$

22. $\frac{5}{8} =$

23. $\frac{1}{3} =$

24. $\frac{1}{6} =$

Write the decimal as a fraction in simplest form.

25. $0.25 =$ _____

26. $0.375 =$ _____

27. $0.51 =$ _____

28. $0.6 =$ _____

Simplify. (No decimal answers)

29. $(-3)^3 =$ _____

30. $2^4 =$ _____

31. $\sqrt{81} =$ _____

32. $\sqrt{64} =$ _____

33. $-4^2 =$ _____

34. $\sqrt{121} =$ _____

35. $\sqrt{\frac{1}{9}} =$ _____

There are 22 students in a geometry class, 12 girls and 10 boys. Write each ratio in simplest form.

36. boys: girls

37. girls: boys

38. boys: students

39. girls: students

Solve the proportion.

40. $\frac{x}{5} = \frac{16}{20}$

41. $\frac{9}{x} = \frac{12}{21}$

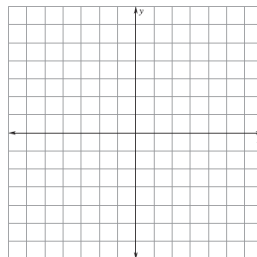
42. $\frac{3}{4} = \frac{x}{30}$

43. $\frac{5}{2} = \frac{10}{x-2}$

Plot the points in a coordinate plane.

44. A (3, 1) C (-1, 5) E (-4,-3)

45. B (2, -4) D (0,-2) F (-3,0)



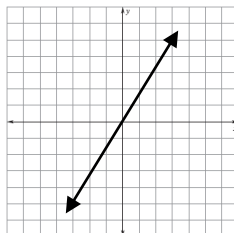
Find the slope of the line that passes through the points. Put answer in simplest form.

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{\text{rise}}{\text{run}}$

46. Use the picture to find m.

47. (-2, 1) and (5, 1)

48. (0, 4) and (6, -2)



Evaluate the expression when n = -1.

49. $2n^2 - 5$

50. $n + 90$

51. $n(n - 4)$

52. $(10 - n)^2$

Use the distributive property to rewrite the expression without parenthesis.

53. $-8(x + 3) =$

54. $a(a - 7) =$

55. $(y - 6)(5) =$

56. $(12 + z)z =$

Solve the equation.

57. $x + 11 = 4$

58. $17 = m - 16$

59. $12 - x = 15$

60. $-8y = -2$

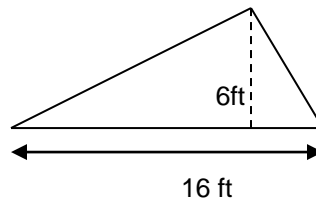
61. $\frac{x}{2} = -9$

62. $3a - 1 = 8$

63. $24 = \frac{5}{8}x + 4$

64. $16z + 9 = 7z$

65. Find the area:



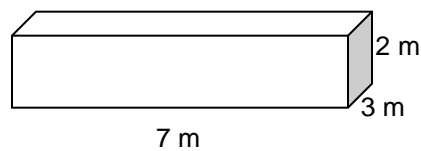
66. Find the perimeter **and** area of a rectangle with length 150 ft and width 60 ft.

67. Find the area of a circle with radius 17 cm. Use 3.14 for π .

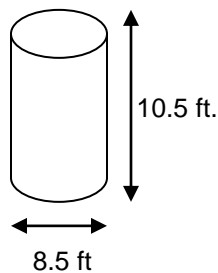
68. A playground is 18 ft by 21 ft. A fence is to be built around it. How many feet of fencing will be needed? If fencing costs \$3.80 per foot, what will be the cost of the fence?

Use one of these formulas: $V = \pi r^2 h$ or $V = lwh$ for problem 69-70.

69. Find the volume of the rectangular prism.



70. Find the volume of the cylinder below. (Round the answer to one decimal place.)



71. Evaluate the expression: $-|-12|$

72. Which number in the list below has the greatest value?

$|-14|$, $|6|$, $|0|$, $|-8|$, $|12|$

73. Given $x = -2$, evaluate $|x - 6|$.

74. Rewrite 50,800,000 in scientific notation.

75. Rewrite 0.00000428 in scientific notation.

76. Rewrite 3.15×10^{-8} in standard form.

77. Rewrite 3.94×10^9 in standard form.

78. The table below shows the molecular masses of several samples of unidentified fluids used in a chemistry laboratory quiz.

Sample	Molecular Mass (kg)
1	4.36×10^{-24}
2	5.14×10^{-23}
3	3.62×10^{-24}
4	6.29×10^{-24}
5	1.36×10^{-23}

If the samples are arranged on a shelf in order of their molecular masses from **least to greatest**, what is the sample number of the sample that will be in the **middle**?

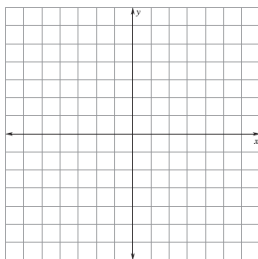
79. You toss a number cube. Find the probability of rolling the number 2.

80. A box contains 2 green, 7 yellow, and 3 purple balls. You draw a ball at random. Find the probability of drawing a green or a purple ball.

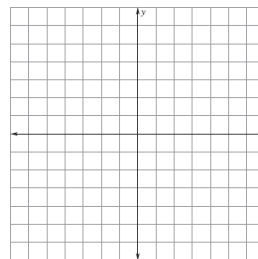
81. The sections on a spinner are numbered from 1 through 8. If the probability of landing on a given section is the same for all the sections, what is the probability of spinning a number less than or equal to 5?

82.- 83. Graph the following two equations on the separate graphs.

82. $y = 5x - 4$



83. $2x + y = -6$

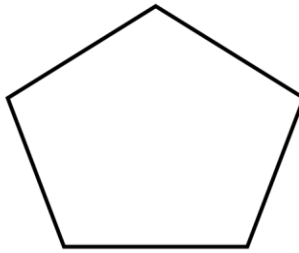


For problems 84-98, give the best name for each figure.

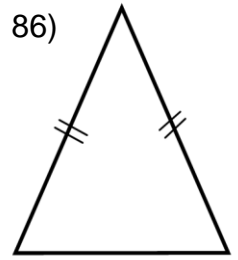
84)



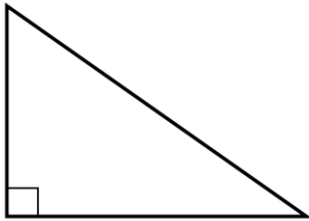
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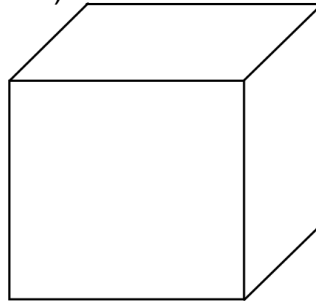
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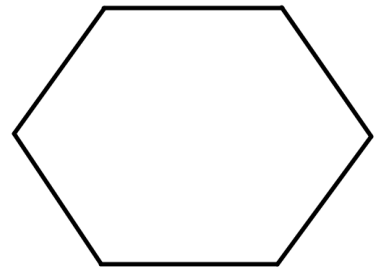
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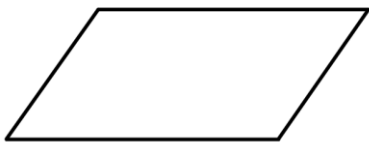
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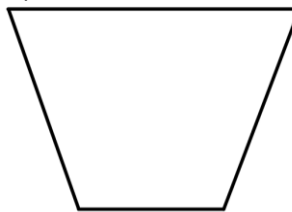
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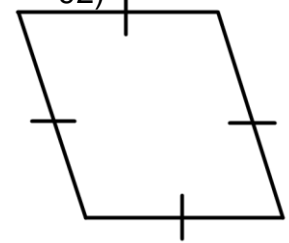
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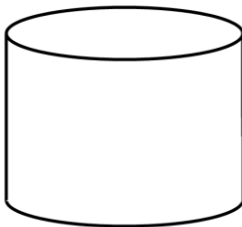
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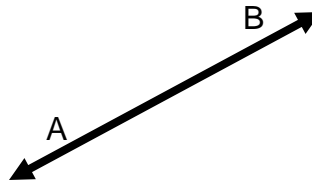
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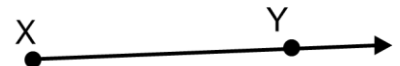
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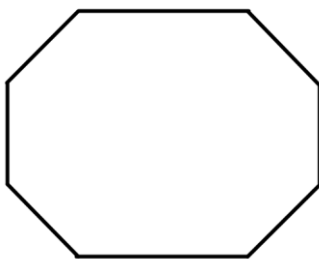
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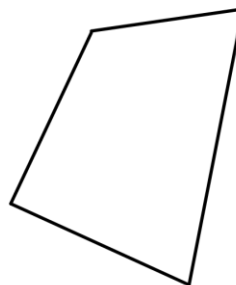
95)



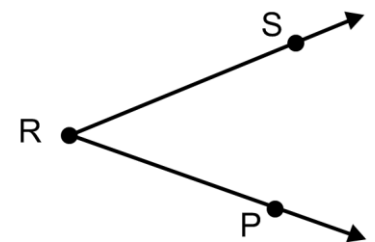
96)



97)



98)



Congratulations!

This concludes the Summer Review packet in preparation for your Geometry Class at Southington High School! We hope you tried your best and look forward to working with you next school year!

ANSWER KEY

1) 5.905

2) 129.41

3) 3

4) 480

5) $\frac{3}{4}$

6) $\frac{1}{4}$

7) $\frac{6}{25}$

8) $\frac{7}{4}$

9) 5.6

10) 18

11) 3

12) 9.9

13) 13

14) -12

15) 45

16) -25

17) >

18) <

19) >

20) <

21) .4

22) .625

23) .33

24) .17

25) $\frac{1}{4}$

26) $\frac{3}{8}$

27) $\frac{51}{100}$

28) $\frac{3}{5}$

29) -27

30) 16

31) 9

32) 8

33) -16

34) 11

35) $\frac{1}{3}$

36) $\frac{5}{6}$

37) $\frac{6}{5}$

38) $\frac{5}{11}$

39) $\frac{6}{11}$

40) 4

41) 15.75

42) 22.5

43) 6

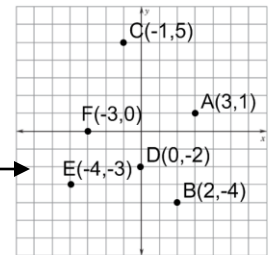
44 & 45) →

46) $\frac{3}{2}$

47) 0

48) -1

49) -3



50) 89

51) 5

52) 121

53) $-8x - 24$

54) $a^2 - 7a$

55) $5y - 30$

56) $12z + z^2$

57) $x = -7$

58) $m = 33$

59) $x = -3$

60) $y = \frac{1}{4}$

61) $x = -18$

62) $a = 3$

63) $x = 32$

64) $z = -1$

65) 48 ft.²

66) $P=420\text{ft}; A=9000\text{ft}^2$

67) $A=907.46 \text{ cm}^2$

68) $P=78\text{ft}; C=\$296.40$

69) $V=42\text{m}^3$

70) $V=595.5\text{ft}^3$

71) -12

72) $|-14|=14$

73) 8

74) 5.08×10^7

75) 4.28×10^{-6}

76).0000000315

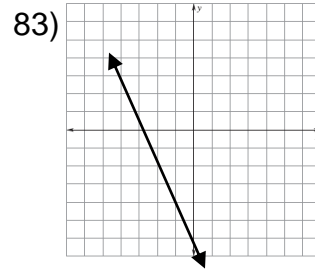
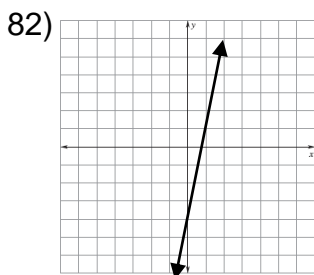
77)3,940,000,000

78) Sample 4

79) $P(2)=\frac{1}{6}$

80) $P(G \text{ or } P)=\frac{5}{12}$

81) $P(\# \leq 5)=\frac{5}{8}$



84) Rectangle

85) Pentagon

86) Isosceles Triangle

87) Right Triangle

88) Cube

89) Hexagon

90) Parallelogram

91) Trapezoid

92) Rhombus

93) Cylinder

94) Line

95) Ray

96) Octagon

97) Quadrilateral

98) Angle