

BRIEN MCMAHON HIGH SCHOOL

MATH DEPARTMENT

GEOMETRY B

SUMMER PACKET

2011

The problems in this packet are designed to help you review topics from previous mathematics courses that are important to your success in Geometry B. The topics covered in this packet should be mastered before entering Geometry. If topics have not been mastered, examples have been provided in each section.

Topics in this packet will be assessed within the first week of school through a test. Completion of this packet will help the student's 1st quarter grade.

While it is not required, it is recommended that students buy a calculator for their personal use throughout the school year. A scientific calculator will be sufficient for Geometry, however a TI – 83 graphing calculator is recommended for Algebra 2 and beyond.

Part I**Evaluate each expression.**

1) $(-3) - (-1)$

2) $8 - (-3)$

3) $7 + (-8)$

4) $(-7) - 8$

5) $3 + (-5)$

6) $6 + (-1) + (-5)$

7) $(-7) + (-5) - 3$

8) $(-4) - (-1) - 3$

9) $(-1) - 3 + 2$

10) $2 + (-1) - 1$

Find each product.

11) $(-10)(3)$

12) $(6)(-4)$

13) $(-9)(-6)$

14) $(-9)(5)$

Find each quotient.

15) $\frac{45}{5}$

16) $\frac{-24}{8}$

17) $\frac{40}{-10}$

18) $\frac{-14}{-7}$

19) $\frac{\frac{1}{3}}{\frac{3}{2}}$

20) $\frac{\frac{3}{4}}{-\frac{9}{7}}$

Evaluate each expression.

21) $6 - (3 + 1)$

22) $5 + 6 - 4$

23) $(13 - 1) \div 2$

24) $\frac{6 + 18}{3 + 1}$

25) $\frac{(12)(2)}{(2)(3)}$

26) $\frac{10 - 2}{6 - 2}$

27) $(5)(3 - 3) + 6 - 1$

28) $\frac{11 - (2 + 3)}{5 - 2}$

29) $(6)(5) + 5^2 + 4$

30) $5 + 6^2 + 3 - 2 - 6$

Simplify each expression.

31) $3v + 10v$

32) $9 - 5m + m + 9$

33) $6(1 - k)$

34) $-7(3 - 8n)$

35) $-(8n - 5) + 5$

36) $2(1 + 4b) + 8b$

Solve each equation.

37) $v + 18 = 2'$

38) $a - 15 = -15$

39) $240 = -12k$

40) $9 = \frac{a}{3}$

41) $a + 1 = -15$

42) $-3.3 = a - 1.6$

43) $-5.803 = -0.7n$

44) $5 + 2k = -29$

45) $3(k + 8) = 63$

46) $\frac{b}{8} + 10 = 12$

47) $-19 = -5n - 9$

48) $-9x + 3 = 30$

49) $24 = 4(r - 7)$

50) $4 - 3a = -29$

51) $-2 + 4x = -26$

Solve each proportion.

52) $\frac{9}{7} = \frac{n}{3}$

53) $\frac{3}{8} = \frac{6}{p}$

54) $\frac{5}{8} = \frac{k}{10}$

55) $\frac{x}{9} = \frac{3}{5}$

56) $\frac{7}{3} = \frac{k+7}{6}$

57) $\frac{6}{x-8} = \frac{4}{x+8}$

Write each as an algebraic expression.

58) q squared

59) 8 more than u

60) the quotient of q and 6

61) k decreased by 26

62) the product of 7 and v

Simplify. Your answer should contain only positive exponents.

63) $3x^4y^4 \cdot y^4$

64) $x^3y^4 \cdot x^3y^3$

65) $(x^3)^3$

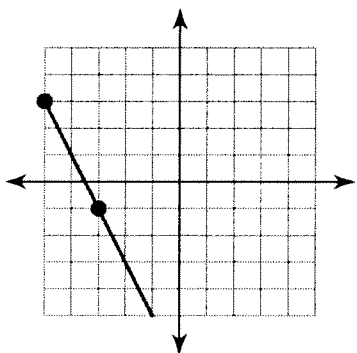
66) $(x^4y^3)^2$

67) $\frac{2m^4n^2}{2m^2n^4}$

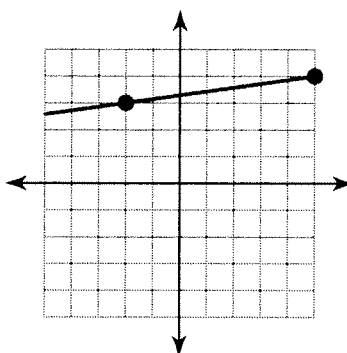
68) $\frac{x^3y^4}{2x^4y^3}$

Find the slope of each line.

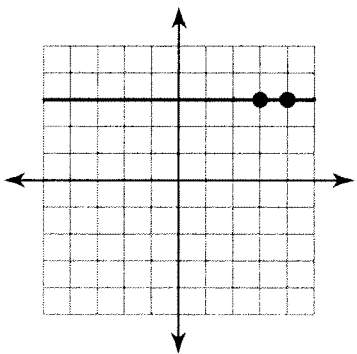
69)



70)

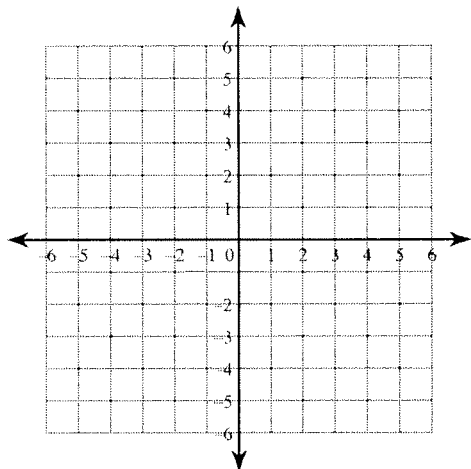


71)

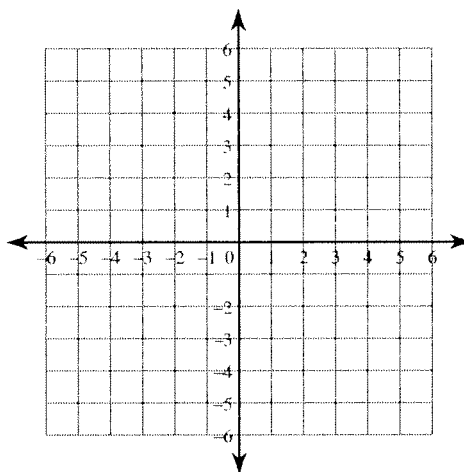


Sketch the graph of each line.

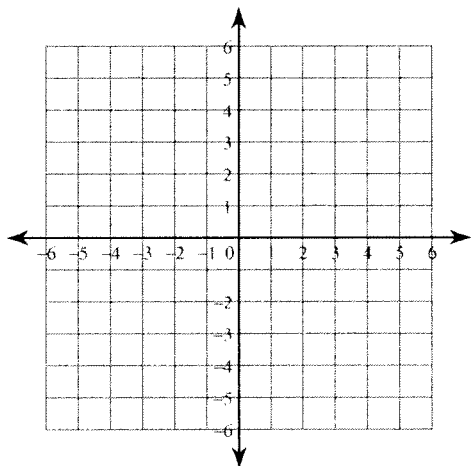
72) $y = 2x - 2$



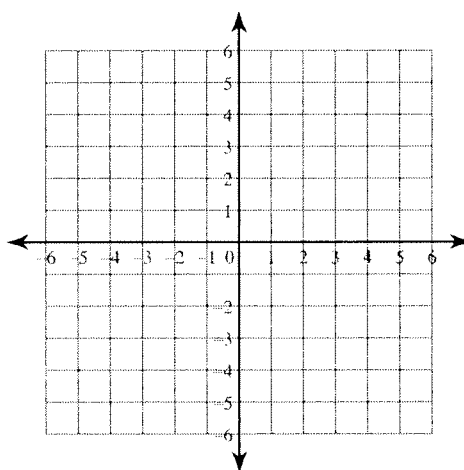
73) $y = \frac{2}{3}x + 1$



74) $y = -4x + 1$

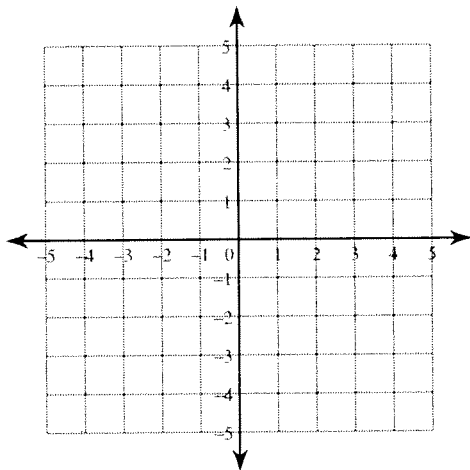


75) $y = -\frac{1}{3}x + 4$

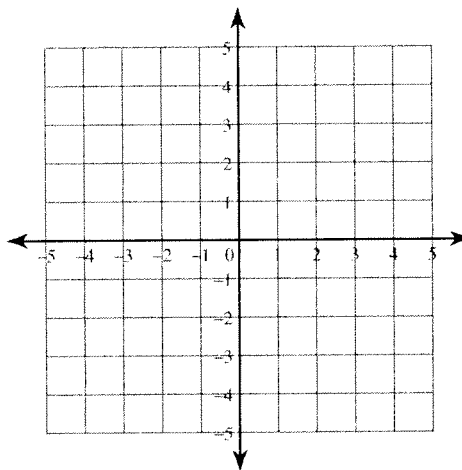


Solve each system by graphing.

76) $y = -3x - 4$
 $y = 2x + 1$

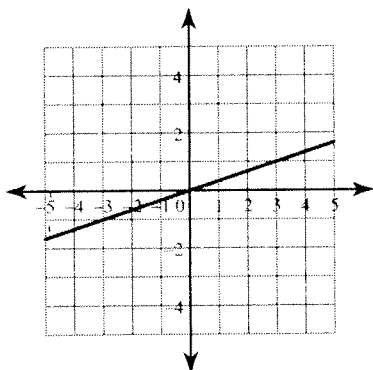


77) $y = \frac{3}{4}x - 2$
 $y = -\frac{1}{4}x + 2$

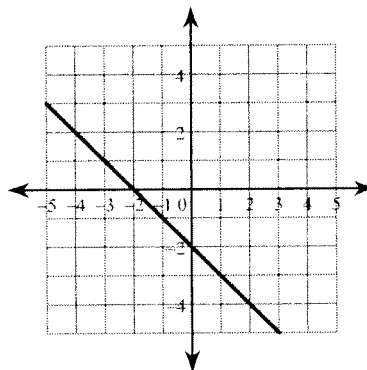


Write the slope-intercept form of the equation of each line.

78)



79)



Write the slope-intercept form of the equation of each line given the slope and y-intercept.

80) Slope = $\frac{1}{2}$, y-intercept = 3

81) Slope = $-\frac{1}{5}$, y-intercept = 2

Find the slope of the line through each pair of points.

82) (3, 2), (3, 6)

83) (4, 14), (-13, -3)

Write the slope-intercept form of the equation of the line through the given point with the given slope.

84) through: $(4, -1)$, slope = $-\frac{1}{2}$

85) through: $(5, 5)$, slope = $\frac{3}{5}$

Write the slope-intercept form of the equation of the line through the given points.

86) through: $(3, 3)$ and $(5, -3)$

87) through: $(-1, 3)$ and $(5, 4)$

Solve each problem.

88) 84% of 28 miles is what?

89) 13% of what is \$57?

Find each percent change. State if it is an increase or a decrease.

90) From 41 to 63

91) From 44 to 27.5

Write each number in scientific notation.

92) 20000

93) 0.006

94) 470000

95) 0.000263

96) 8000

97) 0.514

Write each number in standard notation.

98) 9.07×10^3

99) 7.44×10^{-2}

100) 6×10^4

101) 9.17×10^{-3}

102) 6.5×10^5

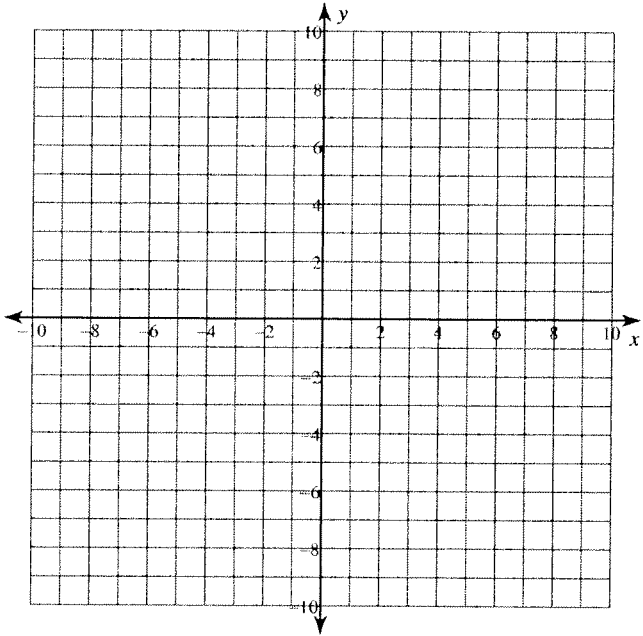
103) 3×10^{-4}

- 104) Beth and Paul each improved their yards by planting rose bushes and geraniums. They bought their supplies from the same store. Beth spent \$130 on 5 rose bushes and 11 geraniums. Paul spent \$70 on 10 rose bushes and 3 geraniums. What is the cost of one rose bush and the cost of one geranium?
- 105) Shawna's school is selling tickets to a play. On the first day of ticket sales the school sold 14 adult tickets and 5 student tickets for a total of \$261. The school took in \$228 on the second day by selling 7 adult tickets and 10 student tickets. What is the price each of one adult ticket and one student ticket?
- 106) Jack's school is selling tickets to a spring musical. On the first day of ticket sales the school sold 12 senior citizen tickets and 6 child tickets for a total of \$144. The school took in \$52 on the second day by selling 6 senior citizen tickets and 1 child ticket. What is the price each of one senior citizen ticket and one child ticket?
- 107) A person goes into Home Depo and buys 2 items for \$5.99 each and 1 item for \$9.99. If sales tax is 6.5%, calculate the final cost of all 3 items.

Part II

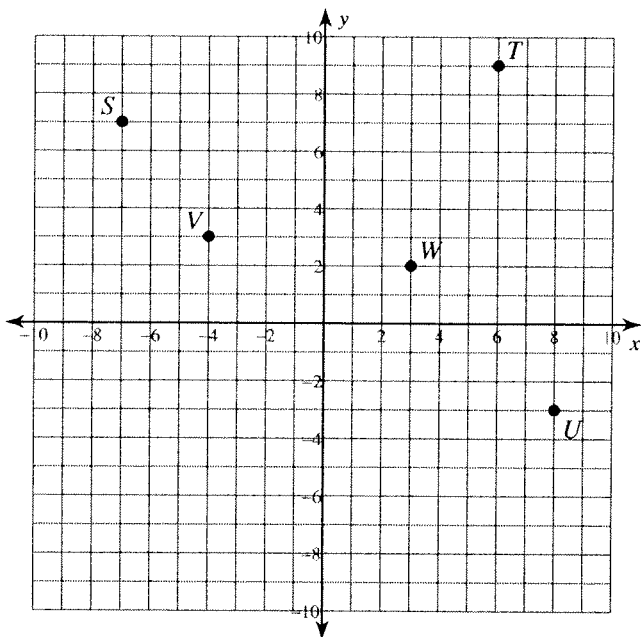
Plot each point.

- 1) $M(4, -10)$ $L(4, -7)$ $K(-9, -6)$
 $J(4, 3)$ $I(-3, -6)$



State the coordinates of each point.

2)



Use a ruler to measure the length of each line segment. Measure each segment in inches. Round your measurements to the nearest $\frac{1}{16}$ of an inch.

3) 

- A) $5\frac{7}{8}$ " B) $5\frac{1}{2}$ "
C) $5\frac{11}{16}$ " D) $5\frac{13}{16}$ "

4) 

- A) $4\frac{5}{16}$ " B) $4\frac{3}{16}$ "
C) $4\frac{1}{8}$ " D) $4\frac{1}{4}$ "

5) 

- A) $6\frac{11}{16}$ " B) $6\frac{15}{16}$ "
C) $6\frac{13}{16}$ " D) $6\frac{3}{4}$ "

Use a ruler to measure the length of each line segment. Measure each segment in centimeters. Round your measurements to the nearest millimeter.

6) 

- A) 9.9 cm B) 9.8 cm
C) 10 cm D) 10.2 cm

7) 

- A) 16.3 cm B) 16 cm
C) 16.1 cm D) 16.2 cm

8) 

- A) 13.4 cm B) 13.3 cm
C) 13.1 cm D) 12.8 cm

Use a ruler to measure the length of each line segment. Measure each segment in millimeters. Round your measurements to the nearest millimeter.

9) 

- A) 104 mm B) 107 mm
- C) 105 mm D) 102 mm

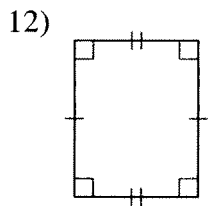
10) 

- A) 126 mm B) 124 mm
- C) 122 mm D) 123 mm

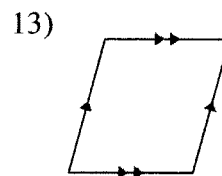
11) 

- A) 168 mm B) 166 mm
- C) 169 mm D) 164 mm

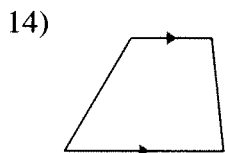
State the most specific name for each figure.



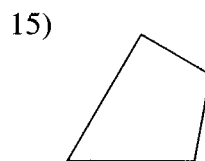
- A) trapezoid
- B) quadrilateral
- C) parallelogram
- D) rectangle



- A) parallelogram
- B) quadrilateral
- C) trapezoid
- D) rhombus

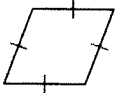


- A) trapezoid
- B) rhombus
- C) parallelogram
- D) quadrilateral



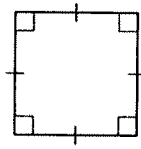
- A) rhombus
- B) quadrilateral
- C) parallelogram
- D) trapezoid

16)



- A) quadrilateral
- B) parallelogram
- C) rhombus
- D) trapezoid

17)



- A) quadrilateral
- B) square
- C) parallelogram
- D) trapezoid

18) If $a = 2$, $b = -3$, and $c = 4$, find each of the following:

- a) abc
- b) $a - b + c$
- c) $ab \div c$