KING SCHOOL

Summer 2026 Mathematics Assignment

FOR STUDENTS ENTERING MAT 800

This math packet provides an opportunity for you to keep your math skills sharp over the summer by practicing what you learned this year. Complete all work **independently** and in the space provided, then circle your final answer. At the start of the school year, this will be collected and will be entered as your first homework grade. If you are confused on a particular topic, please refer to your Math in Focus textbook, your notes from MAT 700 or look up the topic name on Khan Academy or Math Playground.

NO CALCULATOR!!

NAME: _____

KING SCHOOL
2026 MATH SUMMER ASSIGNMENT

DIRECTIONS:

- Please read all directions carefully.
- All work should be done directly on this packet. If you need more space to show your work, please use a separate sheet of paper labeling the section and problem number/letter. Then attach the extra sheets to the back of this packet. If you use additional pages to show your work, **ALL FINAL ANSWERS MUST STILL BE WRITTEN AND CIRCLED IN THE ORIGINAL PACKET.**
- Every final answer should be **circled**.
- Show all of your work. **NO CALCULATORS** may be used when working through this packet. It is expected that all of your calculations are completed on each page.
- You may use your notes from MAT 700 as well as any educational resource on the internet (Khan Academy or Math Playground).
- Working with a tutor on the exact problems in this packet is **NOT** permitted.
- **This assignment will be collected at the beginning of our first class and will be graded as your first homework assignment!**

Good Luck! Take Risks!

Have fun exercising your math brain!!

I have read and understand all of the directions written above and I have completed this packet in its entirety independently and without a calculator.

Signature: _____ **Date:** _____

INCOMING MATH 800 – SUMMER PACKET

Solve.

1) Consider the algebraic expression $3x + 4$.

   a) How many terms are there?

   b) What is the coefficient of the algebraic term?

   c) What is the constant term?

   d) What is the operation symbol?

Solve the following equations using inverse operations. Show all your work.

2) $x + 4 = 10$

3) $x - \frac{1}{2} = 2$

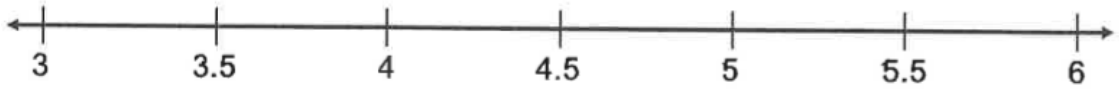
4) $\frac{1}{5}x = 3$

5) $1.2x = 2.4$

Determine if the following is true or false.

6) $x = 1$ gives the solution of the algebraic equation $3x + 5 = 8$.

7) Plot the inequality $x \geq 3.5$ on the number line below.



Compare the pair of numbers or expressions using $<, >$, or $=$.

8) -9 _____ -7

9) 11 _____ -12

10) $25 \cdot (-1)$ _____ $(-1) \cdot 25$

11) 3.87 _____ 3.68

12) $3 \div (-1)$ _____ $(-1) \div 3$

13) 5.23 _____ 5.235

14) $|5|$ _____ $|-5|$

15) -1.23 _____ -1.25

16) Consider the following numbers:

$$34, \quad -23, \quad -54, \quad 54, \quad -60$$

a) Which number is closest to 0?

b) Which number is farthest from 0?

c) Name two numbers with the same absolute value.

Solve.

17) Fill in the table below.

	x	$x+9$	$7x$	$5x-2$
a)	0	$0+9=9$		
b)	2			
c)	-1			
d)	7			

Simplify each expression.

18) $4t+1+6$

20) $4m-3m-3$

22) $5(4+5c)$

19) $4y+5y+3$

21) $4(h+2)$

23) $3(4x-11)$

Factor the following expressions.

24) $4v+14$

25) $10p-2$

26) $6-18c$

Evaluate the following expressions.

27) $75 - (18 + 2) \cdot 3$

28) $15 \cdot (40 \div 8) + 72$

Evaluate the following expressions.

29) $(-16) \times (-3) - (-5) \times 5$

30) $[-2 + (-7)]^3$

31) $3\frac{1}{2} \times \left(-5\frac{1}{7}\right) \div 1\frac{4}{5}$

32) $\frac{2}{3} \times \left(\frac{1}{4} - \frac{1}{8}\right)^2$

33) $\left|4 \times \left(-2\frac{3}{8}\right)\right|$

34) $-|(-2)^2|$

35) $\frac{-3}{|-15|} \times |(-5)^3|$

Simplify the following expressions.

36) $5s \times 3t + 1 \times u$

37) $m - 4n \times 6m \times m$

38) $(a \times 4 - b \times b) \div 2c$

39) $3x - b \div c - 5 \times y$

Simplify the following expressions.

40) $4(2m - 1) + 3(4m + 1)$

41) $3(2p - 7q) - 6(p + 3q)$

42) $-3(4x + y) + 2(8x - 5y)$

43) $-7(2x - y + 3) + -4(-3x + y - 5)$

Express each of the following as a single fraction in its simplest form.

44) $\frac{8x}{4} + \frac{2(1-3x)}{5}$

45) $\frac{4(2x-1)}{7} - \frac{x-3}{2}$

46) $-\frac{2(5-x)}{3} - \frac{7(2x+1)}{9}$

47) $1 - \frac{(x+2)}{6} + \frac{4(1-2x)}{5}$

Solve the following equations.

48) $13x - 22 = 30$

49) $2(5x - 8) + 6 = 11$

50) $\frac{2x}{3} + \frac{x}{5} = 13$

53) $\frac{x-4}{3} - \frac{2x+1}{6} = \frac{5x-1}{2}$

51) $1 - \frac{4}{7}x = 23 + x$

54) $\frac{2}{x-7} = 6$

52) $\frac{4x-5}{2} = \frac{7x-3}{9}$

55) $\frac{4x-1}{5x+1} = \frac{5}{7}$

Locate each irrational number on a number line using areas of squares. Then, estimate the value of each irrational number and round to the nearest tenth.

56) $\sqrt{14}$

57) $\sqrt{34}$

58) $\sqrt{48}$

59) $\sqrt{68}$

Find the number of significant digits in each number.

60) 218.0

61) 70.311

62) -10.9

63) 0.7080

64) 0.00205

65) -0.0007

Round each whole number to the number of given significant digits.

66) 389
(1 significant digit)

67) $21{,}900$
(2 significant digits)

68) $3{,}432{,}167$
(3 significant digits)

69) $32{,}010{,}067$
(5 significant digits)

70) $21{,}900$
(2 significant digits)

71) $34{,}321$
(3 significant digits)

72) $235{,}206$
(4 significant digits)

73) $91{,}701{,}284$
(5 significant digits)

Round each decimal to the given number of significant digits.

74) 0.0237
(1 significant digit)

75) -1.377
(2 significant digits)

76) -1.955
(3 significant digits)

77) -0.001819
(3 significant digits)

78) 3.1426
(4 significant digits)

79) 26.0056
(4 significant digits)

80) -3.1426
(4 significant digits)

81) 26.0056
(5 significant digits)

Determine whether each number is written correctly in scientific notation. If it is incorrectly written, state the reason.

82) $21.5 \cdot 10^{-4}$

83) $9 \cdot 10^{15}$

84) $7.25 \cdot 10^{23}$

85) $0.8 \cdot 10^{7}$

Write each number in scientific notation.

86) $6{,}238$

87) $3{,}700{,}000{,}000$

88) 0.00000000000083

89) 0.0028

Write each number in standard form.

90) $6.05 \cdot 10^1$

91) $8.4 \cdot 10^5$

92) $3.82 \cdot 10^{-4}$

93) $9.8 \cdot 10^{-7}$

Identify the greater number in each pair of numbers. Justify each reasoning.

94) 9.9×10^{10} and 9.6×10^{11}

96) 4.8×10^{-7} and 8.8×10^{-7}

95) 5.8×10^5 and 8.5×10^3

97) 1.25×10^{-3} and 1.28×10^{-5}

SHORT ANSWER

98) Express $\frac{12}{7}$ as a mixed number.

99) If you start with an integer, and subtract -85, add -57, subtract 68, add -77, add 55, and subtract -73, the result is 0. Find the integer that you start with.

100) Consider the following numbers:

$$12, \quad 40, \quad 45$$

a) Find the GCF.

b) Find the LCM.

Write each repeating decimal as a fraction.

101) $0.\overline{4}$

102) $0.2\overline{5}$

103) $0.3\overline{18}$

For each of the following equations, insert brackets so that each equation is a true statement.

104) $-20 + 4 \cdot 2 + 7 - 35 = -19$

105) $-15 - 30 \div 10 - 15 = -9$

106) $-(-5) + 4 \cdot 2 - 7 = -45$

107) $9 - 15 \cdot 2 - 4 = 12$

Determine whether each equation is a consistent equation, an inconsistent equation, or an identity.

108) $\frac{4}{5}x + 18 = -2(3 + 2x)$

109) $7 + 2(x - 6) = -3 + 2(x - 1)$

110) $\frac{2}{5}(1 - 5x) = -\frac{1}{2}(4x + 3)$

Write a linear equation for the relationship between the given quantities.

111) Inches, i, and feet, f

112) Kilometers, k, and meters, m

113) Days, d, and hours, h

114) Megabytes, m, and bytes, b

Use the given slope and the y-intercept of each line to write an equation in slope-intercept form.

115) Slope, $m = \frac{2}{3}$

y-intercept, $b = 1$

116) Slope, $m = -5$

117) y-intercept, $b = 2$

Find the slope and the y-intercept of each line.

118) $y = 4x - 7$

119) $y = -x + 3$

120) $4x - 3y = 9$

121) $-5x + 2y = 6$

Solve.

122) A line has the equation $4x - 3y + 9 = 0$. Write the equation of a line parallel to this line that has a y-intercept of -1.

123) A line has the equation $2y = -3x + 1$. Write the equation of al ine parallel to this line that has a y-intercept of -2.

124) A line has a slope $-\frac{3}{4}$ and passes through the point $(8, 3)$. Write the equation of the line.

125) Write the equation of the line that passes through the point $(3, -5)$ and is parallel to $4x = 1 + 2y$.

126) Write the equation of the line that passes through the point $(7, 0)$ and is parallel to $7y = 6x - 14$.

127) Write the equation of the line that passes through the pair of points $(1, -6)$ and $(-4, 9)$.

128) Write the equation of the line that passes through the pair of points $(3, -10)$ and $(0, 11)$.

Solve.

129) Evaluate $46.5 \times 0.94^2 - 30.0004$. Give your answer to the given number of significant digits.

a) 1 significant digit

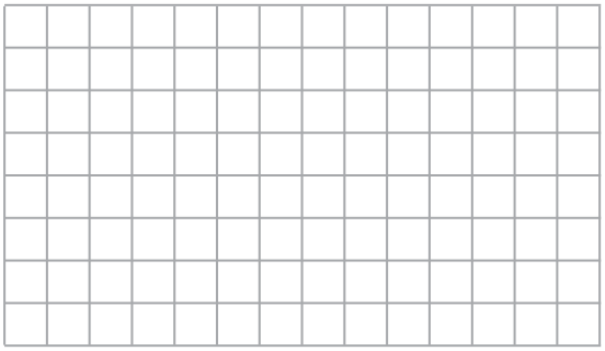
b) 2 significant digits

c) 3 significant digits

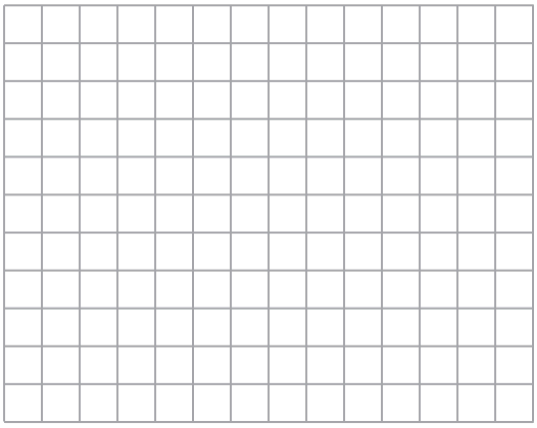
d) 4 significant digits

Graph each linear equation. Use 1 grid square to represent 1 unit on both axes for the interval from -6 to 6.

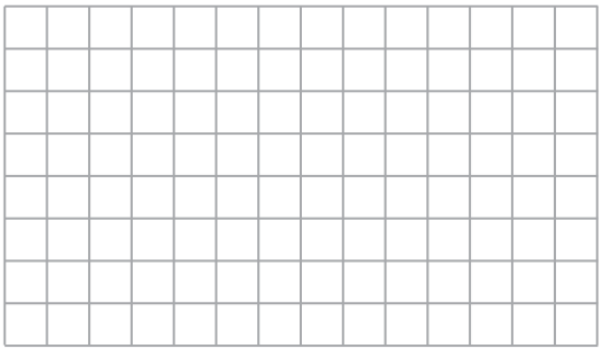
130) $y = \frac{2}{3}x + 2$



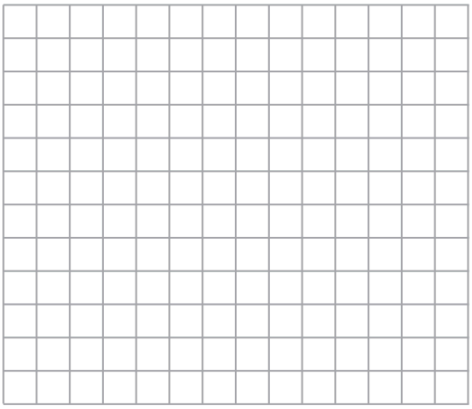
131) $y = \frac{3}{4}x - 5$



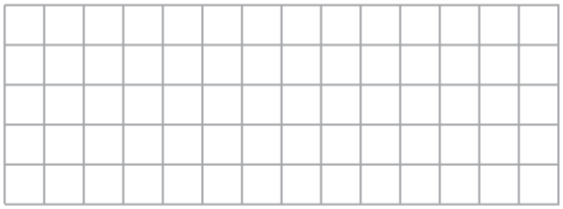
132) $y = \frac{3}{5}x + 3$



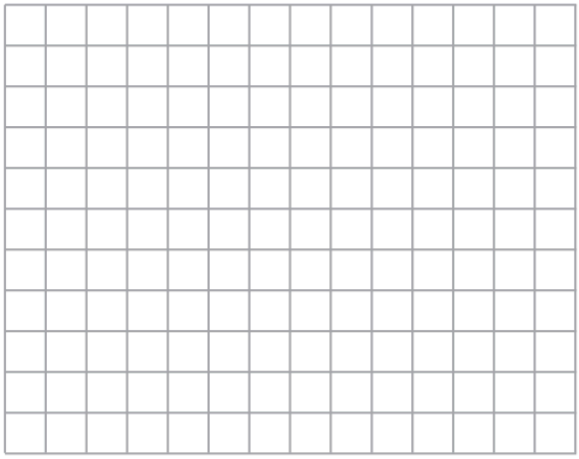
133) $y = 5 - 2x$



134) $y = 2 - \frac{1}{6}x$



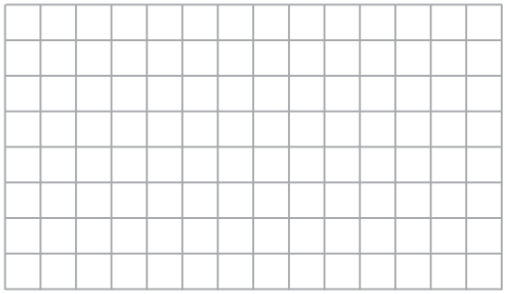
135) $y = \frac{4}{3}x - 4$



136) $y = 2x + 3$

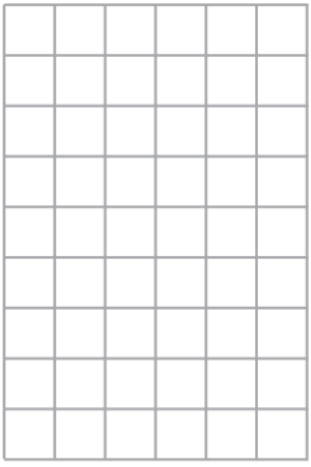


137) $y = -2 - x$

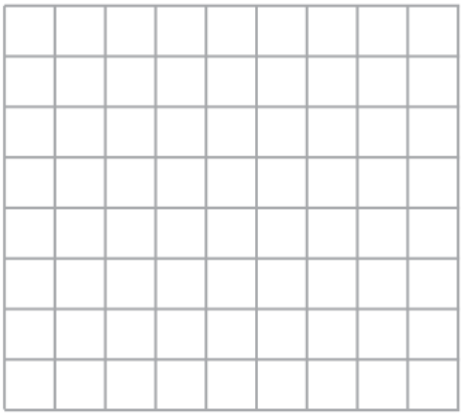


Graph each line.

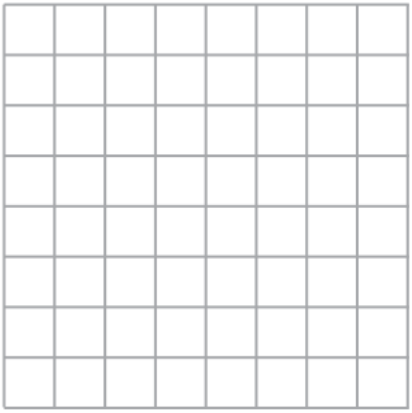
138) A line with slope 2 that passes through the point $(2, 5)$.



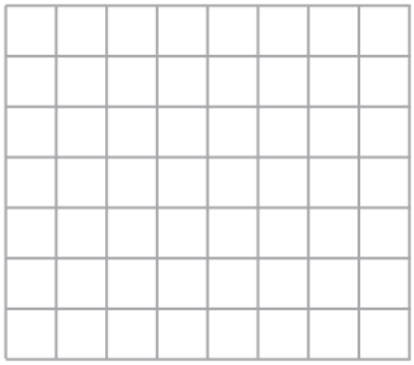
139) A line with slope $-\frac{4}{5}$ that passes through the point $(-5, 6)$.



140) A line with slope -1 that passes through the point $(3, 2)$.



141) A line with slope $\frac{3}{2}$ that passes through the point $(-2, -4)$



WORD PROBLEMS

Solve.

142) The dimensions of a rectangle are (25×7) cm and $(52 \times 2 \times 73)$ cm.

Find the area of the rectangle, giving your answer in prime factorization form.

143) The capacity of a car is 5 passengers and that of a van is 8 passengers.

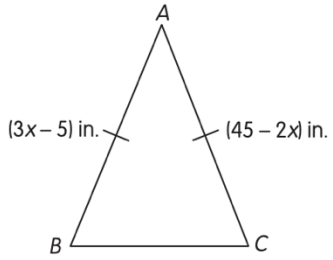
Find the total capacity for m cars and n vans.

144) Ms. Pitasi went shopping, and bought a dress, a skirt, and a diamond ring. The price of the dress is $\$80$ more than the price of the skirt and the price of the ring is 25 times as much as that of the dress. Let $\$k$ be the price of the skirt.

a) Express the price of the dress in terms of k.

b) Express the price of the ring in terms of k.

145) The diagram shows an isosceles triangle ABC. The length of AB is $(3x - 5)$ inches and the length of AC is $(45 - 2x)$ inches.



a) Form an equation in x.

b) Determine whether the equation in **a** is consistent. If so, find the length of AB.

146) The admission fees to a movie are as follows.

CATEGORY	ADMISSION FEE
Adult	$8.50
Child	$5.50

On a certain Saturday, the number of adult tickets sold was $\frac{3}{4}$ of the number of child tickets sold. What was the greatest number of adult tickets sold if the box office receives at most $3,230?

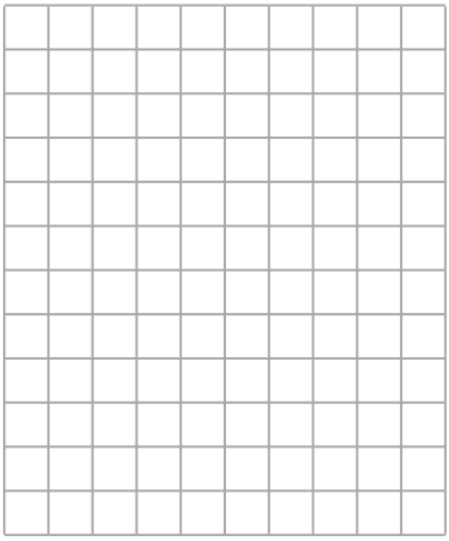
CONSTRUCTED RESPONSE

Graph each line using 1 grid square to represent 1 unit using the intervals given. Then, write the equation for each line.

147) x-axis: -4 to 4

y-axis: -3 to 1

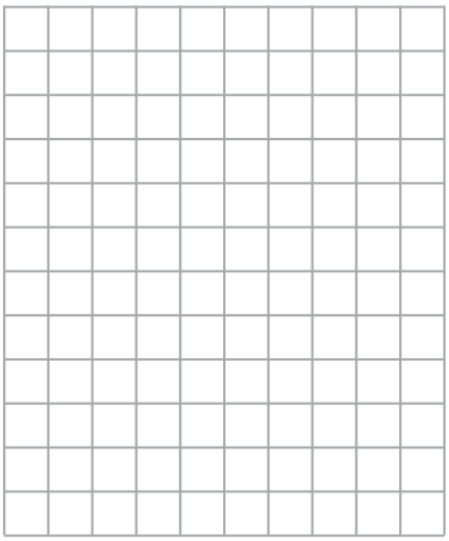
The line passes through the points $(-2, 2)$ and $(4, -2)$.



148) x-axis: -4 to 4

y-axis: -4 to 5

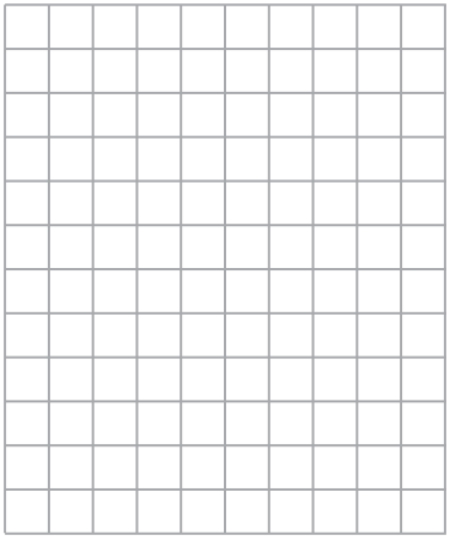
The line passes through the points $(3, 5)$ and $(3, -4)$.



149) x-axis: -4 to 4

y-axis: -4 to 5

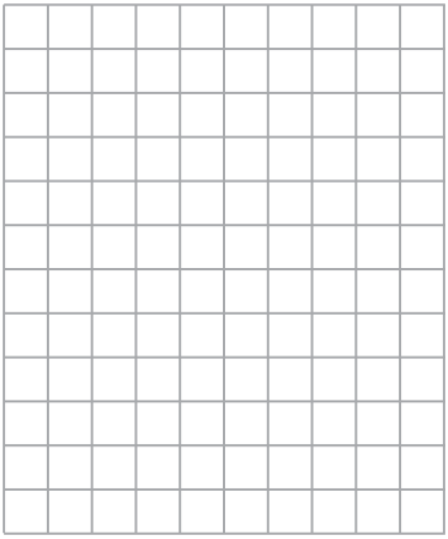
The line passes through the points $(0, -4)$ and $(0, 5)$.



150) x-axis: -4 to 4

y-axis: -1 to 1

The line passes through the points $(4, 0)$ and $(-3, 0)$.



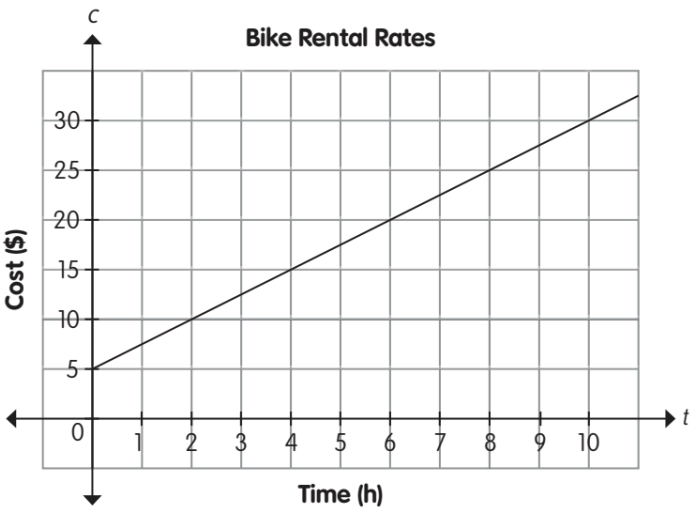
151) A multiplication magic square is a square in which the product of the numbers in each horizontal, vertical, and diagonal line, is a constant. Complete the magic square by finding the missing numbers.

−24	36	2
1		144
	4	

152) One integer is 15 more than $\frac{3}{4}$ of another integer. The sum of the integers is greater than 49. Find the least values for these two integers.

Solve.

153) To rent a bike, Wyatt pays a flat rate plus an hourly rental fee. The graph shows the cost, C dollars, based on the number of hours used, t.



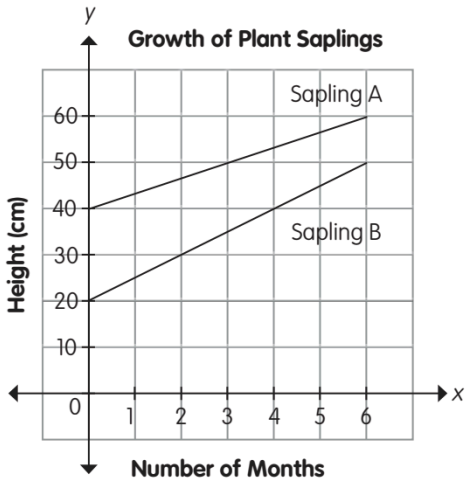
a) Find the vertical intercept of the graph and explain what information it gives about the situation.

b) Find the slope of the graph and explain what information it gives about the situation.

c) Find the amount Wyatt pays to rent a bike for 6 hours.

154) The growth of two plant saplings, A and B, was observed for a period of 6 months. The graph shows the linear growth of the saplings, in centimeters.

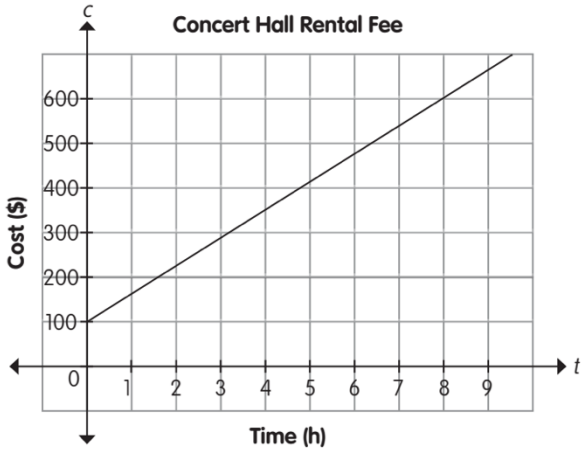
a) Find the initial heights of Sapling A and Sapling B.



b) Which sapling showed a greater amount of growth during the 6-month time period? Explain.

155) The graph shows the cost, C, of renting a concert hall for t hours.

a) Find the vertical intercept of the graph and explain what information it gives about the situation.

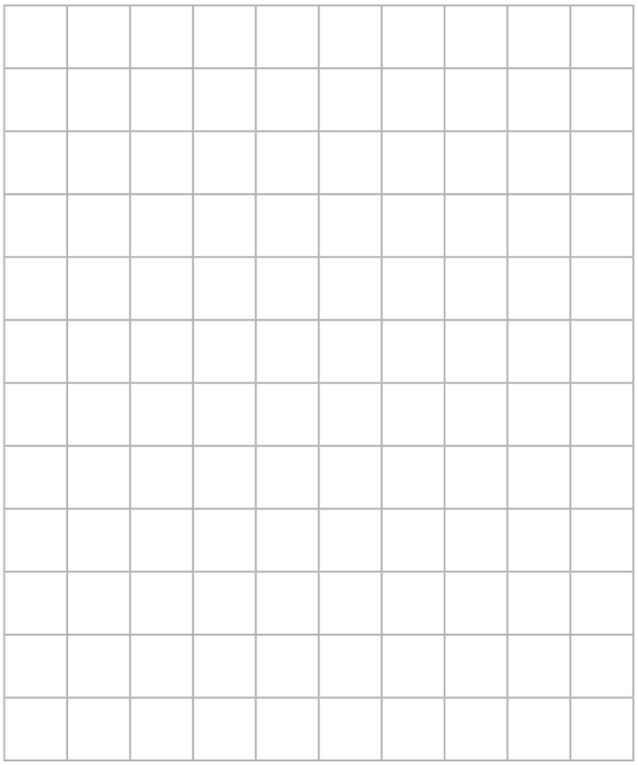


b) Find the slope of the graph and explain what information it gives about the situation.

156) A candle is 9 inches long. Kyle lights the candle and records the length of the candle, y inches, for x hours.

Number of Hours Candle Burns (x hours)	0	1	2	3	4
Height of Candle (y inches)	9	7	5	3	1

a) Graph the relationship between candle height and time. Use 2 grid squares to represent 1 unit on the horizontal axis for the x-interval 0 to 4 and 1 grid square for 1 unit on the vertical axis for the y-interval 0 to 9.



b) Find the vertical intercept of the graph and explain what information it gives about the situation.

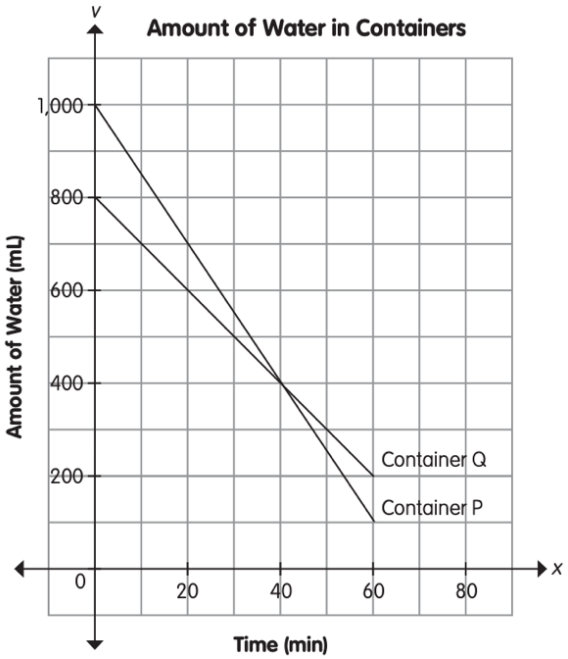
c) Find the slope of the graph and explain what information it gives about the situation.

d) Write the equation relating the height of the candle and the number of hours it is lit.

157) Two containers, P and Q, are filled with different amounts of water. Each container has a tap draining water from it. The graph shows the amount of water, V milliliters, left in each container after x minutes.

a) Find the initial amount of water in each container.

b) Which container's tap drains water faster? Explain.





GREAT WORK!!!!

YOU HAVE OFFICIALLY COMPLETED YOUR 2026 MATH SUMMER PACKET!