Rising 9th Grade Algebra 1 Name_____

Summer Math Packet

Evaluate each expression.

1) $1 - \left(-3\frac{1}{5}\right)$

2) $\left(-3\frac{1}{8}\right) - 4\frac{3}{7}$

3) $\left(-\frac{4}{3}\right) - \frac{1}{3}$

4) $2\frac{1}{2} - \frac{2}{5}$

Find each product.

5) $2\frac{2}{3} \cdot -3\frac{2}{3}$

6) $-1\frac{1}{2} \cdot -1\frac{5}{6}$

7) $\frac{1}{4} \cdot -\frac{3}{2}$

8) $-\frac{1}{5} \cdot -\frac{1}{3}$

Find each quotient.

9) $-2 \div -1\frac{3}{4}$

10) $-2 \div \frac{2}{3}$

11) $\frac{-1}{7} \div 1\frac{1}{2}$

12) $\frac{-3}{4} \div 5\frac{2}{3}$

Write each numeral in words.

13) 5,089,037

14) 4,909,395

Write each as a decimal. Use repeating decimals when necessary.

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

16) $\frac{5}{33}$

List all positive factors of each.

17) 27

18) 30

Find the GCF of each.

19) 21, 49, 35

20) 42, 28, 35

Find the LCM of each.

21) 8, 20

22) 40, 30

Write each as an algebraic expression.

23) u squared is equal to 17

24) 10 more than w is equal to 7

Write each as a verbal expression.

25) $d^2 = 41$

26) $x - 14 = 24$

Evaluate each expression.

27) $6 \cdot 6 + 4 + \frac{6}{6 - 4}$

28) $1 + \frac{6}{3 - 1} + 2^2$

29) $3 \cdot 5 - (4 - (6 - 4 - 1))$

30) $1 + 6 - \frac{2 + 6}{2} + 4$

Evaluate each using the values given.

31) $a + 3^3 - (b - a)$; use $a = 1$, and $b = 6$

32) $x + x(x + y) + y$; use $x = 4$, and $y = 1$

Solve each equation.

33) $-24 = n - 7$

34) $54 = -18a$

Write an equation for the situation then solve for x.

35) A stray dog ate 21 of your muffins. That was $\frac{3}{4}$ of all of them! With how many did you start?

36) After paying $7 for a sandwich, John has $11. With how much money did he start?

Solve each equation.

37) $-83 = -8a + 5$

38) $3 - 3a = 51$

Write an equation for the situation then solve for x.

39) Julio rented a bike from Krystal's Bikes. It cost $13 plus $2 per hour. If Julio paid $17, then he rented the bike for how many hours?

40) Mofor sold half of his comic books and then bought seventeen more. He now has 33. With how many did he begin?

Solve each equation.

41) $6a + 4 = 7a - a$

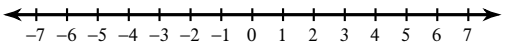
42) $-16 + 7n - 5n = -4n + 8n$

43) $7(-1 + 2x) - 6 = -83$

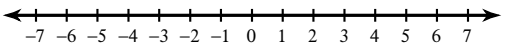
44) $8(-7 + 6v) = -296$

Draw a graph for each inequality.

45) $r \leq -3$

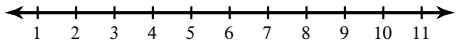


46) $n > 1$

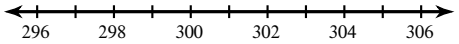


Solve each inequality and graph its solution.

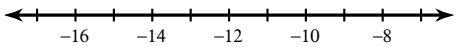
47) $9 + m \leq 16$



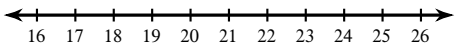
48) $15 > \frac{n}{20}$



49) $56 > -4r + 8$



50) $-9 - 6x > -117$



Simplify. Your answer should contain only positive exponents.

51) $7v^3 \cdot v^4 \cdot 7v^4$

52) $4x^2 \cdot 4x$

53) $\frac{7n^2 \cdot 2n^3}{5n^3}$

54) $\frac{8a^4}{3a^4 \cdot 7a}$

55) $(5p)^4$

56) $(2k^3)^4$

Write each number in scientific notation.

57) 56000

58) 0.000108

Write each number in standard notation.

59) 3.71×10^{1}

60) 7.9×10^{-2}

Solve each proportion.

61) $\frac{6}{n} = \frac{4}{3}$

62) $\frac{6}{9} = \frac{10}{x}$

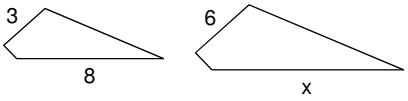
Answer each question and round your answer to the nearest whole number.

63) One bulb of elephant garlic costs \$2. How many bulbs of elephant garlic can you buy for \$20?

64) Ashley bought one package of cherry tomatoes for \$3. How many packages can DeShawn buy if he has \$15?

Each pair of figures is similar. Find the missing side.

65)



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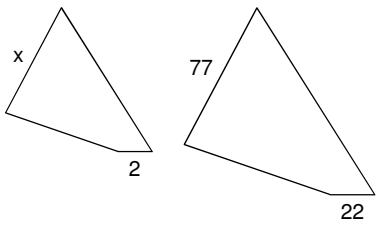


Write each as a percent. Use repeating decimals when necessary.

67) $\frac{2}{5}$

68) $8\frac{2}{5}$

Solve each problem.

69) 88 is what percent of 121?

70) 44% of 27 is what?

71) 66% of 130 is what?

72) What percent of 81 is 72?

Find each percent change. Round to the nearest tenth of a percent. State if it is an increase or decrease.

73) From 87 to 10

74) From 98 to 84

Find the selling price of each item.

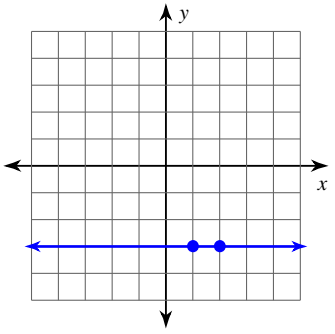
75) Original price of a microscope: $299.95
Discount: 20%

76) Cost of a lizard: $45.50
Markup: 70%

77) Original price of a sweater: $10.99
Tax: 1%

Find the slope of each line.

78)



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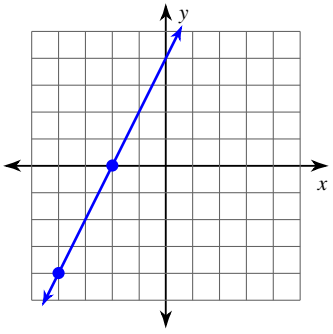

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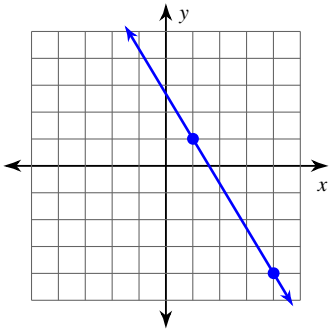

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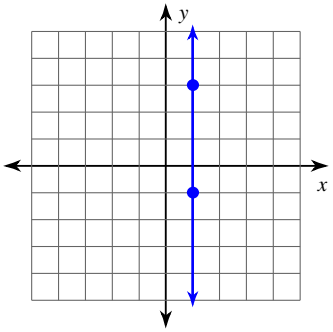


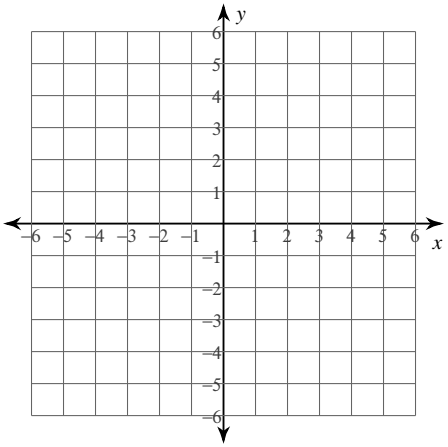
Find the slope of the line through each pair of points. Hint: $m = \frac{y - y}{x - x}$

82) $(11, -15), (-1, -7)$

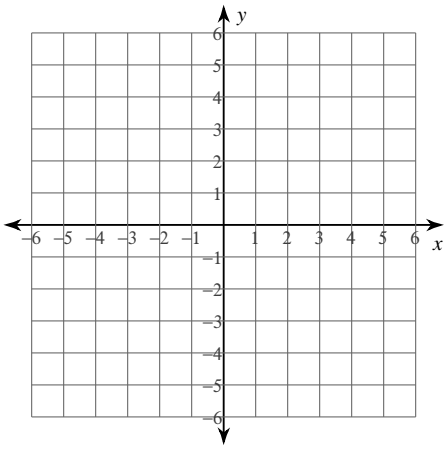
83) $(-2, 14), (-19, 8)$

Sketch the graph of each line. Hint: y=mx+b

84) $y = -\frac{1}{5}x - 3$

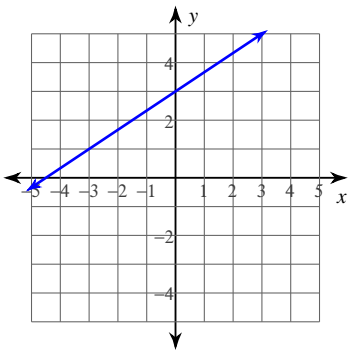


85) $y = 2x + 3$



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

86)



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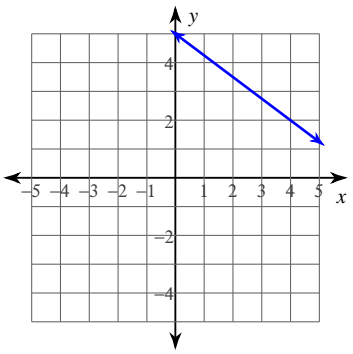
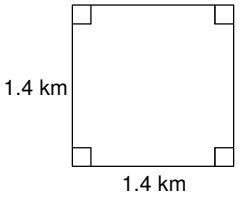


Find the area of each.

88)



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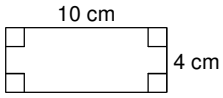

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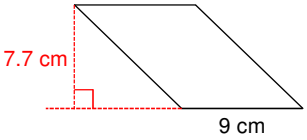

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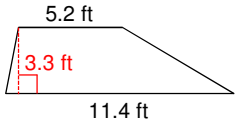
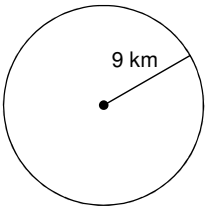


Find the area of each. Round your answer to the nearest tenth.

92)



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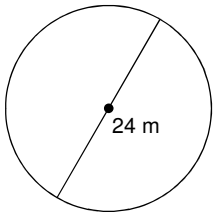
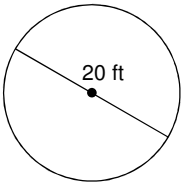


Find the circumference of each circle. Round your answer to the nearest tenth.

94)



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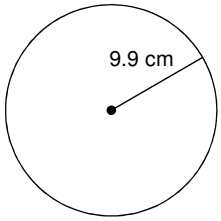
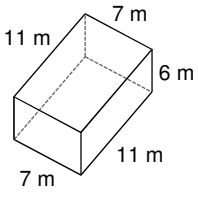


Find the volume of each figure. Round to the nearest tenth.

96)



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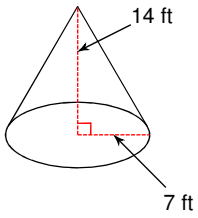

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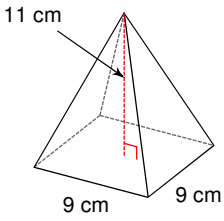

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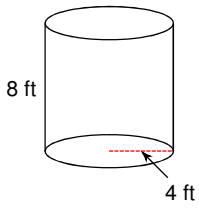
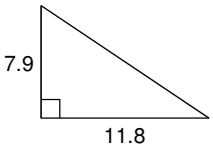


Find each missing length to the nearest tenth. Hint: $a^2 + b^2 = c^2$

100)



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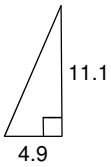
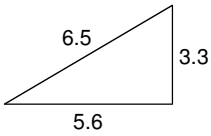


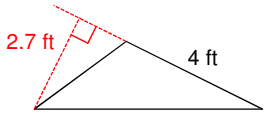
Do the following lengths form a right triangle? $a^2 + b^2 = c^2$

102)



Find the area of each. Hint: $A = \frac{1}{2}b \cdot h$

103)



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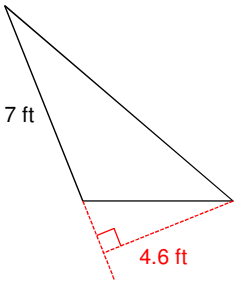

Classify each triangle by its angles and sides.

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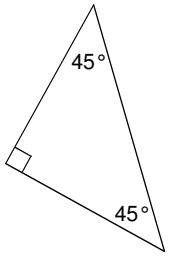

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