

Name: _____

SUMMER MATH PRACTICE

Students entering Algebra I

Directions: Pencils must be used. NO CALCULATORS ARE PERMITTED FOR ANY SECTION. Please show your work for each problem (this will be part of your grade). This needs to be turned in on your first full day of math class. You will be given a quiz grade for the completion of this summer packet. 75% of the grade will be for the completion and 25% for the accuracy.

Simplify each expression using the order of operations.

1) $2 + 6 \times 8 \div 4$

2) $10 \div 5 \times 2 + 6$

3) $4 + (20 \times 3)$

4) $30 - 2^2 + (5 + 5)$

5) $(8-5)^2 \times 2 + 5$

6) $10^2 \div 10 + 8 \times 4$

7) $-2(5 - 8) + 18 \div 3$

8) $5 + 8 \div 8 \times 2$

9) $\frac{10 - 8 + 6}{2 - 4^2}$

10) $-2 \left[5 + \left(3 \cdot \frac{1}{6} \right) \right]^2$

Evaluate when $x = 3$, $y = 1$, and $z = 2$

11) $12 - (z - y)^2$

12) $3 + [(13 - x) \cdot 21]$

13) $\frac{y}{z + 3y}$

14) $\left| \frac{z + 2}{y + 1} \right|^2 \div 4$

Write the mixed number as an improper fraction.

15) $9\frac{3}{7}$

16) $-7\frac{5}{6}$

Evaluate. Put fractional answers in simplest form.

17) $\frac{2}{9} + \frac{5}{9}$

18) $\frac{1}{7} + \frac{3}{5}$

19) $1\frac{7}{10} + 4\frac{2}{5}$

20) $1\frac{1}{9} - \frac{1}{3}$

21) $\frac{5}{9} - \frac{1}{4}$

22) $7\frac{1}{6} + 9\frac{1}{2}$

23) $\frac{2}{3} \cdot 9$

24) $-\frac{4}{7} \cdot \frac{3}{4}$

25) $3\frac{1}{2} \cdot 1\frac{6}{7}$

26) $1\frac{2}{5} \div 2\frac{5}{7}$

Evaluate. Put fractional answers in simplest form.

27) $\frac{8}{9} \div \frac{6}{36}$

28) $10 \div 3\frac{1}{3}$

29) 2.5×8.5

30) $(-4.8)(7.27)$

31) $6.3 \div 9$

32) $106.83 \div 0.09$

33) $(-19) + 8$

34) $(-23) + (-15)$

35) $9 - 22$

36) $(-14) - 16$

37) $(-37) - (-26)$

38) $(-8)(-12)$

39) $(16)(-13)$

40) $\frac{-45}{1.5}$

Write each decimal as a percent.

41) 1.22

42) 0.003

Write each percent as a decimal.

43) 18.2%

44) 7%

Write each percent as a fraction in lowest terms.

45) 66%

46) 145%

Write each fraction as a percent and as a decimal.

47) $\frac{3}{10}$

48) $\frac{17}{50}$

Solve.

49) What number is 5% of 186?

50) What number is 75% of 192?

51) What percent of 25 is 20?

52) 25% of what number is 6?

53) $2x < -14$ (graph the solution as well as solve)



54) $r - 8 > -10$ (graph the solution)



Write an equation or inequality for each sentence. Use n for the variable.

55) A number increased by one is one-half of twenty-four.

56) Seventeen is 42 minus one-half of a number.

57) Eighteen times a number is 36.

58) Four more than a number is less than 38.

59) Eight times the sum of a number and three is 35.

60) Four more than five times a number is less than or equal to 39.

Solve each equation.

61) $n + 581 = 484$

62) $n - 6 = 24$

63) $152 - n = 634$

64) $37 + n = 2134$

65) $-7n = 56$

66) $57n = 171$

67) $\frac{n}{32} = 18$

68) $2n + 5 = 9$

69) $3n - 2 = 10$

70) $\frac{n}{2} + 5 = 10$

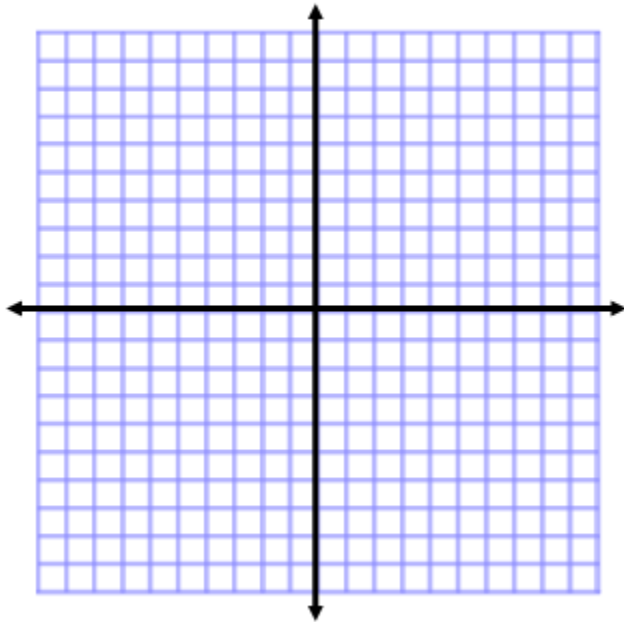
Using the graph below, graph the following points and label them.

71) $A(5,5)$

72) $B(3,-2)$

73) $C(-4,-3)$

74) $D(-5,4)$



Simplify by combining like terms or by using the distributive property.

75) $2x + 5x + 7$

76) $3(x - 4)$

77) $5y + 8x + 9y + x$

78) $-5(3r + 8a)$

79) $8x - 6(x - 2) + 5$

80) $4(x + 3) - 2(x + 9)$

Solve each proportion.

81) $\frac{3}{z} = \frac{1}{8}$

82) $\frac{-4}{9} = \frac{7}{x}$

83) $\frac{f+3}{12} = \frac{7}{2}$

84) $\frac{9}{2} = \frac{5}{x+1}$

Solve.

85) A recipe calls for $1\frac{1}{4}$ cup of sugar and $1\frac{1}{3}$ cup butter. Which is greater, the amount of sugar or the amount of butter?

86) Yoshi's car travels 18 miles on a gallon of gas. How far could the car travel on 17.6 gallons of gas?

87) An equilateral triangle has a perimeter of 53.1 centimeters. What is the length of one of its sides?

88) Vince went to Burger Delite for dinner. He ordered a Jumbo Burger for \$2.19, medium fries for \$0.89, and a vanilla shake for \$1.19. Tax on his order was \$0.35. What was the total cost of his order?

89) An art teacher is cutting a piece of string 48 feet long into equal pieces to give to 15 students. How long should each piece be?

90) Jeff saved 12% on a coat that was marked \$108. How much did Jeff pay for the coat?