Dear Incoming 8th Graders (and Parents),

This summer packet is designed to help review skills from 7th grade math that you will need to be successful in the fall. Please make sure to complete this packet in its entirety and show your work (on a separate sheet of paper, as necessary). You will need to be able to complete all the problems provided ***without the use of a calculator*** and will turn this packet (with your work) in for a quiz grade during that first week back in August. We will also spend the first several days of school reviewing before you will be assessed over this content as your first test grade of the year.

Hope you all have a wonderful summer!

See you in August,
Mrs. Norfleet

HONORS AND ACCELERATED - SUMMER PACKET 2025

Name_____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Insert <, >, or = to make the statement true.

1) 5 ___ −4

2) −86 ___ −10

3) −6 ___ −6

4) −5 ___ −3

5) −8 ___ 0

6) 0.3 ___ 0.5

7) −0.2 ___ −1.0

8) −300 ___ −30

1) _____

2) _____

3) _____

4) _____

5) _____

6) _____

7) _____

8) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Is the following statement true or false?

9) 11 > 13
   A) True   B) False

10) −18 < 0
   A) True   B) False

11) 23 > 3
   A) True   B) False

12) 6 + 2 ≤ 3(4)
   A) True   B) False

9) _____

10) _____

11) _____

12) _____

Solve the problem.

13) Building A is 74 feet tall. Building B is 102 feet tall. Write an inequality statement using < or > comparing the numbers 74 and 102.
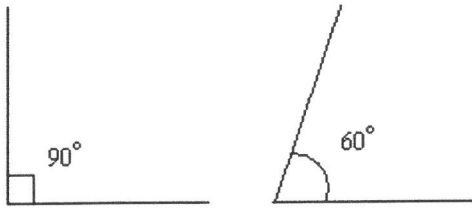   A) 74 < 102   B) 74 > 102

13) _____

14) An angle measuring 90° is shown and an angle measuring 60° is shown. Use the inequality   14) _____
symbol ≤ or ≥ to write a statement comparing the numbers 90 and 60.

A) 90 ≥ 60   B) 90 ≤ 60

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Write the sentence as a mathematical statement.

15) Negative twenty-eight is less than negative fifteen.   15) _____

16) Eleven is less than or equal to nineteen.   16) _____

17) Forty-one is not equal to negative forty-one.   17) _____

18) Twenty-five is less than or equal to twenty-five.   18) _____

Use an integer to represent the value in the statement.

19) 25° below zero   19) _____

20) a climb of 149 feet up a shear mountain cliff   20) _____

21) 140 feet below sea level   21) _____

22) $364 loss   22) _____

23) The team scored 17 points.   23) _____

24) a deduction of $227.05 in your checkbook   24) _____

25) a decrease of 106 feet in elevation   25) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Tell which set or sets the number belongs to: natural numbers, whole numbers, integers, rational numbers, irrational numbers, and real numbers.

26) 98   26) _____
   A) real   B) integer, rational, real
   C) natural, whole, integer, rational, real   D) whole, rational, real

27) -46   27) _____
   A) irrational, real   B) integer, rational, real
   C) real   D) whole, real

2

28) $\sqrt{20}$

    A) whole, real   B) irrational, real   C) integer, real   D) rational, real

28) _____

29) 0

    A) integer, real   B) rational, real
    C) whole, real   D) whole, integer, rational, real

29) _____

30) 4.69

    A) rational   B) rational, real
    C) real   D) natural, rational, real

30) _____

31) 0.4848...

    A) rational, real   B) natural, rational, real
    C) real   D) irrational, real

31) _____

32) $\dfrac{7}{9}$

    A) irrational, real   B) whole, real   C) rational, real   D) real

32) _____

33) $-\sqrt{23}$

    A) irrational, real   B) whole, real   C) integer, real   D) rational, real

33) _____

**SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.**

Find the absolute value of the number.

34) $|17|$

34) _____

35) $|-8|$

35) _____

36) $|0|$

36) _____

Insert <, >, or = to make the statement true.

37) $|-3|$ ____ $|-15|$

37) _____

38) 0 ____ $|-55|$

38) _____

39) $|-9|$ ____ $|8|$

39) _____

40) $|-11|$ ____ $\dfrac{22}{-2}$

40) _____

The graph below shows the number of students enrolled in various courses at State University in spring 2000. Each bar represents a different course, and the height of the bar represents the number of students enrolled. Use the graph to answer the question.
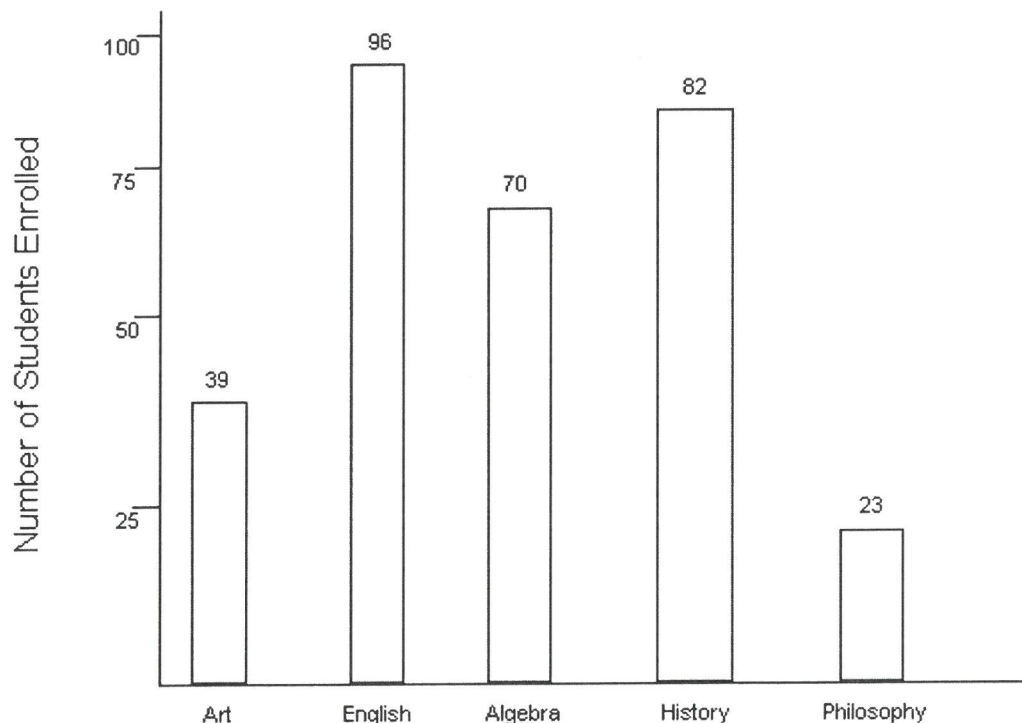
41) Which course had the highest enrollment?   41) _____

42) For which courses was enrollment greater than 80?   42) _____

Write the fraction in lowest terms.

43) $\dfrac{4}{8}$ 43) _____

44) $\dfrac{3}{5}$ 44) _____

45) $\dfrac{30}{70}$ 45) _____

46) $\dfrac{77}{99}$ 46) _____

Write the number as a product of primes.

47) 55   47) _____

48) 27   48) _____

4

49) 60

49) _____

50) 32

50) _____

Multiply or divide as indicated. Write the answer in lowest terms.

51) $\dfrac{5}{8} \cdot \dfrac{3}{4}$

51) _____

52) $\dfrac{3}{4} \cdot \dfrac{5}{4}$

52) _____

53) $\dfrac{10}{2} \cdot \dfrac{2}{6}$

53) _____

54) $\dfrac{8}{19} \div \dfrac{3}{5}$

54) _____

55) $\dfrac{1}{19} \div \dfrac{1}{10}$

55) _____

56) $1\dfrac{1}{8} \cdot \dfrac{4}{7}$

56) _____

57) $2\dfrac{1}{2} \cdot 2\dfrac{2}{5}$

57) _____

58) $6\dfrac{3}{5} \div \dfrac{1}{5}$

58) _____

59) $\dfrac{2}{3} \div 6$

59) _____

Add or subtract as indicated. Write the answer in lowest terms.

60) $\dfrac{5}{9} + \dfrac{1}{9}$

60) _____

61) $\dfrac{14}{90} + \dfrac{14}{90}$

61) _____

62) $\dfrac{7}{8} + \dfrac{1}{2}$

62) _____

63) $\dfrac{9}{10} - \dfrac{1}{25}$ 63) _____

64) $\dfrac{22}{7} - 3$ 64) _____

65) $5\dfrac{3}{5} + 5\dfrac{2}{9}$ 65) _____

Solve. Simplify the answer.

66) Jeffrey has two packages. One weighs $1\dfrac{2}{5}$ ounces, and the other weighs $\dfrac{3}{8}$ of an ounce.   66) _____

What is the total weight of the two packages?

67) The total length of a boat race is $\dfrac{5}{13}$ of a mile. Gretta has completed $\dfrac{2}{13}$ of a mile. How   67) _____

much does she have left to complete?

68) Erika spent $\dfrac{3}{4}$ of an hour on her computer visiting the history channel and the discovery   68) _____

channel websites. She spent $\dfrac{1}{3}$ of an hour at the history channel website. How many

hours did she spend at the discovery channel website?

69) Jerry caught a fish that weighed $13\dfrac{1}{8}$ pounds. Pat caught a fish that weighed $7\dfrac{3}{8}$ 69) _____

pounds. How much more did Jerry's fish weigh than Pat's fish?

Write the fraction as an equivalent fraction with the given denominator.

70) $\dfrac{3}{5}$ with a denominator of 10   70) _____

71) $\dfrac{2}{3}$ with a denominator of 21   71) _____

Evaluate.

72) 10^2 72) _____

73) 7^3 73) _____

74) $\left(\dfrac{1}{5}\right)^2$ 74) _____

Simplify the expression.

75) $9 \cdot 8 - 5$

75) _____

76) $4 \cdot 10 + 11 \cdot 17$

76) _____

77) $\dfrac{2 + 9}{1 + 4}$

77) _____

78) $\dfrac{13 + 7}{3^2 - 4}$

78) _____

79) $(29 + 29) \cdot (25 - 16)$

79) _____

80) $6[3 + 8(2 + 6)]$

80) _____

81) $|-20| + |24 + 9|$

81) _____

Evaluate the expression when x = 2, y = 1, and z = 4.

82) $\dfrac{y}{9x}$

82) _____

83) $|4z - 5y|$

83) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Evaluate the expression for the given replacement values.

84) $6y + \dfrac{45}{x}$ $x = 5, y = 7$

84) _____

    A) 15   B) 87   C) 51   D) 9

Decide whether the given number is a solution of the given equation.

85) Is 8 a solution of $x + 13 = 21$?

85) _____

    A) yes   B) no

86) Is 0 a solution of $x = 6x - 54$?

86) _____

    A) yes   B) no

Write the sentence as an equation or inequality. Use x to represent any unknown number.

87) One increased by two equals the quotient of fifteen and five.

87) _____

    A) $1 + 2 = 15 \cdot 5$ B) $1 + 2 = 5 \div 15$ C) $1 + 2 = 15 - 5$ D) $1 + 2 = 15 \div 5$

88) The sum of 7 and a number is 31.

88) _____

    A) $7 = 31 + x$ B) $7 - x = 31$ C) $7 + x = 31$ D) $31 + 7 = x$

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Add.

89) 32 + 14

89) _____

90) 14 + (−10)

90) _____

91) −4 + (−19)

91) _____

92) −17 + 19

92) _____

93) $\dfrac{3}{20} + \left(-\dfrac{3}{20}\right)$

93) _____

94) $-\dfrac{1}{3} + \left(-\dfrac{1}{3}\right)$

94) _____

95) −2.2 + (−5.8)

95) _____

96) |−20| + 24

96) _____

97) |35 + (−55)| + |−40|

97) _____

Solve.

98) Lauren scored 18 points in her basketball game on Monday, 7 on Wednesday, 13 on Friday, and 2 on Saturday. Find her total points scored for the week.

98) _____

99) On part of a scenic tour of underground caves, Dave and Neil started at an elevation of − 56 feet. They then rose 18 feet. What was their elevation at this point?

99) _____

100) In four rounds of a card game, you get scores of −6, −3, −4, and −2. What is your final score?

100) _____

Find the additive inverse or opposite.

101) |13|

101) _____

102) 30

102) _____

Simplify.

103) −|−21|

103) _____

104) − |− 0 |

104) _____

105) − |30|

105) _____

Subtract.

106) 12 − 13

106) _____

107) 20 – 20

107) _____

108) –5 – 8

108) _____

109) –12 – (–2)

109) _____

110) 15 – (–9)

110) _____

111) –12 – (–12)

111) _____

Simplify the expression. (Remember the order of operations.)

112) 4 + (–7) – (–20)

112) _____

113) 14 + 6 – (–8)

113) _____

114) –4 – (–9) + (–14)

114) _____

115) 14 + (–20) – (–4) + 16

115) _____

116) –13 + 12 – (–14) – 17 + 15

116) _____

117) $(4 - 1)(2 + 7) - 6^3$

117) _____

Evaluate the expression when x = 5, y = –2, and t = 8.

118) y – x

118) _____

119) |x + t + 7y|

119) _____

120) $\dfrac{|x + 16|}{5t}$

120) _____

Solve.

121) Sean has $256 in his savings account. After he withdraws $26, what will his balance be?

121) _____

122) Trader Tower stands at 2106 feet high. Exchange Emporium is 848 feet tall. How much taller is Trader Tower than Exchange Emporium?

122) _____

123) The temperature at 5:00 was –2° C. Four hours later, it was –11° C. What was the change in temperature?

123) _____

Translate the phrase to an expression and simplify.

124) Subtract 10 from –9.

124) _____

125) Decrease –10 by –8.

125) _____

Multiply.

126) 7(–10)

126) _____

127) 4(–7)

127) _____

128) –14 · 0

128) _____

129) (–2)(–2)

129) _____

130) –3.4(–15)

130) _____

131) (–4)(–3)(7)

131) _____

132) (–5)(–5)(0)(5)

132) _____

Evaluate.

133) $(-12)^2$

133) _____

134) -4^3

134) _____

135) $(-6)^3$

135) _____

Find the reciprocal or multiplicative inverse.

136) 4

136) _____

137) $\dfrac{5}{7}$

137) _____

Divide.

138) $\dfrac{-42}{-6}$

138) _____

139) $-\dfrac{15}{5}$

139) _____

140) $\dfrac{-196}{-7}$

140) _____

141) $\dfrac{0}{-59}$

141) _____

142) $-\dfrac{1}{6} \div \dfrac{1}{6}$

142) _____

Simplify.

143) $\dfrac{-45}{4+5}$

143) _____

10

144) $\dfrac{6 + 10}{-5 - 5}$ 144) _____

145) $\dfrac{5 - 2}{2 - 5}$ 145) _____

146) $\dfrac{\left|3 - 6^3\right| - 4}{-8 - 5}$ 146) _____

If x = –4 and y = –2, evaluate the expression.

147) $9x + 7y$ 147) _____

148) $\dfrac{6 - 3x}{y + 2}$ 148) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Name the property illustrated by the statement.

149) $(3 + 2) + 9 = (2 + 3) + 9$ 149) _____
    A) commutative property of addition   B) distributive property
    C) additive inverse property   D) associative property of addition

150) $9 + 3 = 3 + 9$ 150) _____
    A) commutative property of addition   B) associative property of addition
    C) identity element for addition   D) distributive property

151) $(8 \cdot 1) \cdot 3 = 8 \cdot (1 \cdot 3)$ 151) _____
    A) associative property of multiplication
    B) distributive property
    C) identity element for multiplication
    D) commutative property of multiplication

152) $8 \cdot 3 = 3 \cdot 8$ 152) _____
    A) associative property of multiplication
    B) identity element for multiplication
    C) distributive property
    D) commutative property of multiplication

153) $21 + (20 + 24) = (21 + 20) + 24$ 153) _____
    A) distributive property   B) associative property of addition
    C) commutative property of addition   D) identity element for addition

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Use the distributive property to write the expression without parentheses. Then simplify, if necessary.

154) $5(5x + 2)$ 154) _____

155) $\frac{1}{5}$(15x – 10)   155) _____

156) –(b – 2y)   156) _____

157) 5(9r + 7 + 5s)   157) _____

158) 12(5z + 3) – 2   158) _____

159) 13 + 2(4x – 2)   159) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Fill in the blank with one of the words or phrases listed below.

set	inequality symbols	opposites	absolute value	numerator
denominator	grouping symbols	exponent	base	reciprocals
variable	equation	solution		

160) The symbols ≠, <, and > are called _____.   160) _____

    A) inequality symbols   B) grouping symbols
    C) reciprocals   D) opposites

161) A mathematical statement that two expressions are equal is called a(n) _____.   161) _____

    A) absolute value   B) exponent
    C) equation   D) inequality symbols

162) The _____ of a number is the distance between that number an 0 on the number line.   162) _____

    A) base   B) solution
    C) exponent   D) absolute value

163) A symbol used to represent a number is called a _____.   163) _____

    A) denominator   B) numerator   C) variable   D) base

164) Two numbers that are the same distance from 0 but lie on opposite sides of 0 are called   164) _____

_____.

    A) opposites   B) inequality symbols
    C) reciprocals   D) grouping symbols

165) The number in a fraction above the fraction bar is called the _____.   165) _____

    A) base   B) exponent   C) numerator   D) denominator

166) A _____ of an equation is a value for the variable that makes the equation a true   166) _____

statement.
    A) variable   B) set   C) solution   D) base

167) Two numbers whose product is 1 are called _____ .   167) _____

    A) inequality symbols   B) grouping symbols

    C) reciprocals   D) opposites

168) In 2^3, the 2 is called the _____ and the 3 is called the _____ .   168) _____

    A) base, exponent   B) exponent, base

    C) denominator, numerator   D) numerator, denominator

169) The number in a fraction below the fraction bar is called the _____ .   169) _____

    A) base   B) denominator   C) numerator   D) exponent

170) Parentheses and brackets are examples of _____ .   170) _____

    A) opposites   B) reciprocals

    C) inequality symbols   D) grouping symbols

171) A _____ is a collection of objects   171) _____

    A) solution   B) variable   C) base   D) set

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Simplify the expression.

172) $-9 + 11$ 172) _____

173) $-12 - (-3)$ 173) _____

174) $12 \div 3 \cdot 4 - 5 \cdot 9$ 174) _____

175) $(12)(-8)$ 175) _____

176) $(-9)(-3)$ 176) _____

177) $\dfrac{-28}{0}$ 177) _____

178) $\dfrac{1}{3} - \dfrac{7}{12}$ 178) _____

179) $-9.2 + 5.5$ 179) _____

180) $5[-4 + 7(-2 + 8)]$ 180) _____

181) $\dfrac{(-2)(0)(-8)}{-4}$ 181) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Insert <, >, or = to make the statement true.

182) 8 _____ –7

    A) >   B) =   C) <

182) _____

183) $|-4|$ _____ –5 – (– 9)

    A) <   B) >   C) =

183) _____

List the numbers in set B that belong to the indicated set.

184) $B = \left\{ 20, \sqrt{6}, -15, 0, \dfrac{0}{25}, 2\pi, \sqrt{25} \right\}$

Natural numbers

    A) $20, 0, \dfrac{0}{2}$ B) $20, 0, \sqrt{25}$ C) $20, 0$ D) $20, \sqrt{25}$

184) _____

185) $B = \left\{ 19, \sqrt{5}, -5, 0, \dfrac{0}{8}, 2\pi, \sqrt{16} \right\}$

Whole numbers

    A) $19, -5, 0, \sqrt{16}, 2\pi$ B) $19, 0, \dfrac{0}{8}, \sqrt{16}$

    C) $19, 0$ D) $19, -5, 0$

185) _____

186) $B = \left\{ 9, \sqrt{8}, -19, 0, \dfrac{0}{4}, 2\pi, \sqrt{4} \right\}$

Integers

    A) $9, 0$ B) $9, -19, 0, \dfrac{0}{4}, \sqrt{4}$

    C) $9, -19, 0$ D) $9, 0, \sqrt{4}, 2\pi$

186) _____

187) $B = \left\{ 19, \sqrt{7}, -15, 0, \dfrac{0}{5}, \sqrt{9}, \dfrac{-6}{0}, 2\pi, 0.61 \right\}$

Rational numbers

    A) $\sqrt{7}, \dfrac{0}{5}, 0.61$ B) $19, -15, 0, \dfrac{0}{5}, \sqrt{9}, 0.61$

    C) $19, 0, \sqrt{9}, 2\pi$ D) $\sqrt{7}, \sqrt{9}$

187) _____

14

188) $B = \left\{ 3, \sqrt{6}, -2, 0, \dfrac{0}{7}, \sqrt{25}, \dfrac{-5}{0}, 2\pi, 0.11 \right\}$

    188) _____

    Irrational numbers

       A) $\sqrt{6}, \dfrac{-5}{0}, 2\pi$ B) $\sqrt{6}, \sqrt{25}, 0.11, 2\pi$

       C) $\sqrt{6}, \sqrt{25}$ D) $\sqrt{6}, 2\pi$

189) $B = \left\{ 13, \sqrt{7}, -15, 0, \dfrac{0}{8}, \sqrt{4}, 2\pi, \dfrac{-2}{0} \right\}$

    189) _____

    Real numbers

       A) $13, -15, 0, \dfrac{0}{8}, \dfrac{-2}{0}$ B) $13, -15, 0, \sqrt{4}$

       C) $13, -15, 0, \dfrac{0}{8}, \sqrt{4}, 2\pi$ D) $13, \sqrt{7}, -15, 0, \dfrac{0}{8}, \sqrt{4}, 2\pi$

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Evaluate the expression for the given replacement values.

    190) $x^2 + y^2$ $x = 9, y = -4$

    190) _____

    191) $8 + 2x - y$ $x = 4, y = -7$

    191) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Identify the property illustrated by the expression.

    192) $25 + (15 + 23) = (25 + 15) + 23$

    192) _____

       A) distributive property   B) associative property of addition

       C) identity element for addition   D) commutative property of addition

    193) $3 \cdot 6 = 6 \cdot 3$

    193) _____

       A) identity element for multiplication

       B) associative property of multiplication

       C) commutative property of multiplication

       D) distributive property

    194) $-8(9 + 4) = -8 \cdot 9 + (-8) \cdot 4$

    194) _____

       A) associative property of multiplication

       B) commutative property of multiplication

       C) distributive property

       D) associative property of addition

    195) $\dfrac{1}{5}(5) = 1$

    195) _____

       A) identity element for multiplication   B) associative property of multiplication

       C) distributive property   D) multiplicative inverse property

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Provide an appropriate response.

196) Find the opposite of −25.

196) _____

197) Find the reciprocal of $-\dfrac{1}{5}$.

197) _____

Solve the problem.

198) The temperature at a mountain resort was a frigid 9 degrees below zero in the morning, but by noon it had risen 35 degrees. What was the temperature at noon?

198) _____

199) Allied Health Provider is a health insurance provider. In three consecutive recent years, it had net incomes of $323 million, $475 million, and −$201 million. What was Allied Health Provider's total net income for these three years?

199) _____

200) Noah Field decided to sell 220 shares of stock, which decreased in value by $3.50 per share yesterday. How much money did he lose?

200) _____