Name: _____ Class: ____ Date: ____

ID: A

Summer Math Skills for 6th Grade going into 7th Grade

Give the place and value of the underlined digit. Then round the number to that place.

- 1. 4561.23
- 2. 8<u>7</u>5.43
- 3. 87. <u>3</u>44
- 4. 91.87<u>5</u>6

Order the numbers from least to greatest.

- 5. 4.3, 3.4, 4.5, 3.45
- 6. 0.71, 0.75, 0.7, 0.715

Perform the indicated operation.

- 7. 4.2 + 1.9
- 8. 18.24 + 22.09
- 9. 8.6 3.45
- 10. 8.21 5.19
- 11. 9.3×0.6
- 12. 15.2×7.1
- 13. $1.5 \div 0.3$
- 14. $18.25 \div 7.3$

Write the mixed number as an improper fraction.

- 15. $5\frac{3}{4}$
- 16. $6\frac{4}{13}$

Write the improper fraction as a mixed number.

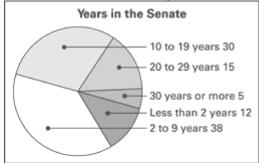
- 17. $\frac{23}{6}$
- 18. $\frac{27}{11}$

Find the product.

- 19. $8 \times \frac{3}{4}$
- $20. \quad \frac{5}{6} \times 30$
- 21. $4 \times \frac{7}{9}$
- 22. $\frac{4}{7} \times 9$

Use the circle graph which shows the number of years that a senator had worked in the U.S. Senate at

the start of the 104th Congress.



23. How many senators had worked in the U.S. Senate for 10 to 19 years?

How many senators had worked in the U.S. Senate for 20 years or more?

25. How many senators had worked in the U.S. Senate for 9 years or less?

26. Find the perimeter of a rectangle with a length of 5 centimeters and a width of 3 centimeters.

Copy and complete the statement.

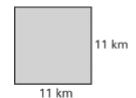
27. 9 ft = $\frac{?}{}$ yd

28. 560 mm = ? cm

Find the area of the square.

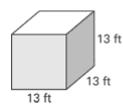


29. 5 yd

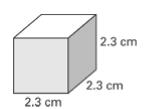


30.

Find the volume of the cube.



31.



32. 2.3 cm

Copy and complete the statement using <, >, or =.

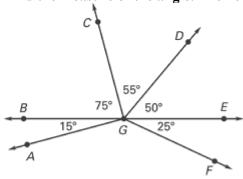
33. 1.5 tons ? 3100 lb

34. 6.7 kg <u>?</u> 6700 g

35. 16 fl oz <u>?</u> 2 c

36. 31, 150 mL ? 3 L

Find the measure of the angle. Then classify the angle as acute, right, obtuse, or straight.



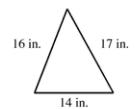
37. *m∠AGC*

38. *m∠CGF*

39. *m∠DGF*

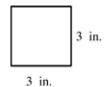
40. *m∠BGE*

Find the perimeter. (The figure may not be drawn to scale.)



41.

- a. 119 in.
- b. 47 in.
- c. 116 in.
- d. 50 in.
- 42. What is the perimeter of the square?



- 43. The perimeter of a square is 32 feet. Find the area of the square.
 - a. 64 ft²
 - b. 65 ft²
 - c. 9 ft²
 - d. 8 ft²

Identify the property illustrated in the statement.

5b(1) = 5b

- a. Identity property of addition
- b. Identity property of multiplication
- c. Commutative property of multiplication
- d. Commutative property of addition

 $-2(7x) = (-2 \cdot 7)x$

- a. Associative property of addition
- b. Commutative property of addition
- c. Associative property of multiplication
- d. Commutative property of multiplication

Evaluate the expression when x = 20 and y = -3.

46.
$$3x + 2y + 2x$$

47. The recipe you are following calls for 3 quarts of water. You have 3 pints of water. Do you have enough water? If you have enough water, how much extra do you have? If you do not have enough, how much more do you need?

- a. Yes; 2 pt
- b. Yes; 3 pt
- c. No; 2 pt
- d. No; 3 pt

48. The length of a college basketball court is 94 feet. Use a conversion factor to find the length in inches.

Perform the indicated operation.

49.
$$547.54 + (-18.2)$$

- a. 565.74
- b. 54,572

- c. 529.34
- d. 365.54

$$50. 7.02 \div 0.009$$

- a. 0.7
- b. 780

- c. 7.8
- d. 78

51.
$$-8(2.25)$$

Solve the equation.

$$\frac{d}{9} = 4.3$$

- a. 38.7
- b. 39.8

- c. 37.6
- d. 30.6

53.
$$1.87 = x + 11.04$$

54.
$$3.87 + f = 16.86$$

Copy and complete the statement using < or >.

55.
$$-2$$
? -15

Tell whether the statement is true or false. Explain your reasoning.

57.
$$-54 < -56$$

Order the integers from least to greatest.

$$58. -265, 340, -180, 240, -325$$

Complete the statement using <, >, or =.

59. | 12 | <u>?</u> | -5 |

a. <

b. >

 $c_{\cdot} =$

60. Which of the following is a true statement?

- $a. \quad |-7| < |3| \qquad \qquad b. \quad |-7| > |3| \qquad \qquad c. \quad |-7| < |7| \qquad \qquad d. \quad 0 > |-3|$

Find the absolute value of the number.

62. An elevator started on the 6th floor. It went up 8 floors, down 7 floors, up 7 floors, and down 2 floors. On what floor did the elevator finally stop?

Find the difference.

- 63. 6 (-8)
- 64. 7 (-18)
- 65. 1 (-14)
- 66. 9 (-6)
- 67. 3 (-12)

$$68. -14 - (-14)$$

Find the product.

69.
$$-3(-92)$$

70.
$$-8(3)(6)$$

Solve the equation using mental math.

71.
$$6b = -42$$

72. At noon the temperature was 14°C. If the temperature then dropped 4°C per hour, what was the temperature after 6 hours?

Find the quotient.

73.
$$-252 \div (-3)$$

74.
$$-32 \div (4)$$

Find the mean of the integers.

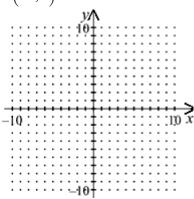
75.
$$-12, 7, -6, -15, 1$$

Use the distributive property to write an equivalent expression. Check your answer.

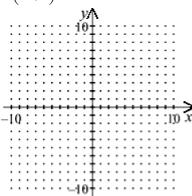
76.
$$13(2+2)$$

Plot the point and describe its location.

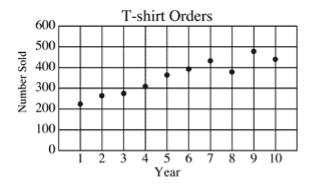
77. C(-6,0)



78. D(-7,3)

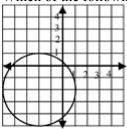


____ 79. The scatter plot shows the number of T-shirts sold by a company during their first 10 years in business. Which conclusion is best supported by the graph?



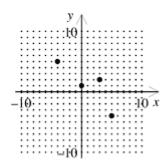
- a. More T-shirts were sold in the sixth year than in the tenth year.
- b. The number of T-shirts sold doubled in the first 5 years.
- c. There was a steady decline in the number of T-shirts sold in the last 3 years.
- d. The company sold almost as many T-shirts in the fifth year as it did in the eighth year.

80. Which of the following ordered pairs represents a point that lies within the circle?

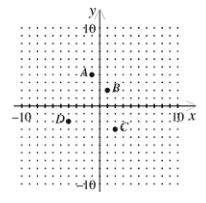


- a. (2, 2)
- b. (2, -2)
- c. (-2, 3)
- d. (-2, -2)
- 81. GRIDDED RESPONSE Grid the correct answer on a separate gridding sheet.

What is the *x*-coordinate of the point in quadrant 4?

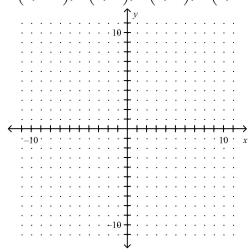


82. Write the coordinates of the points A, B, C, and D.



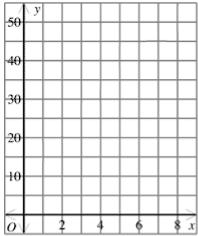
Plot and connect the points to form a rectangle. Then find the length, width, and area of the rectangle.

83.
$$A(8, -3), B(8, 2), C(4, 2), D(4, -3)$$



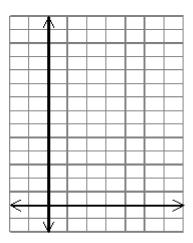
84. A company employee has recorded information on the size of the company over the last 8 years. The ordered pairs show the years in business and the number of employees. Make a scatter plot of the data. Then make a conclusion about the data.

$$(1, 15), (2, 21), (3, 27), (4, 28), (5, 39), (6, 40), (7, 44), (8, 52)$$



85. The weights of ten Holstein calves of different ages are given in the table. Make a scatter plot of the data. Put age on the horizontal axis. Then describe any pattern that you see in the scatter plot.

Age (months)	2	2	3	4	5	6	7	7
Weight (pounds)	230	250	320	420	480	570	660	680



Evaluate the expression for the given value of the variable.

____ 86. 29 - x when x = 9

a. 19

b. 38

c. 20

d. 37

____ 87. 4a when a = 2

a. 16

b. 6

c. 8

d. 2

88. $\frac{n}{4}$ when n = 36

a. 144

b. 36

c. 4

d. 9

89. g - 1 when g = 18

90. $\frac{10}{s}$ when s = 2

Evaluate the expression when w = 8, x = 15, y = 4, and z = 3.

91.
$$\frac{x}{z}$$

92.
$$w + y$$

Write the product as a power.

Evaluate the power.

____ 94. 1⁴ a. 1

b. 8

c. 4

d. 2

95. 0⁵

Copy and complete the statement using <, >, or =.

>

 $c. \quad <$

____ 97. 100 <u>?</u> 2⁷

a. >

b. <

c =

Evaluate the expression for the given value of the variable.

____ 98. a^3 when a = 4

a. 16

b. 12

c. 32

d. 64

Write the power in words.

100. What is 4 written as a power?

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Evaluate the expression when x = 5, y = 30, and z = 6.

____ 101. $\frac{x^3 - y}{x}$

- b. 119 c. 3
- d. 9

102. $4y - z^2$

Evaluate the expression.

103. 8(8+5)+2a. 208

- b. 120
- c. 71
- d. 106

 $104. \ \ 2(22-8+2)$

- a. 24
- b. 42
- c. 44
- d. 32

 $\underline{\hspace{1cm}}$ 105. $\frac{46-11}{5}$

- a. 5
- b. 8
- c. 6
- d. 7

106. $27 \div 3 - 3$

- 107. $4 \div 2 \cdot 2 + 9 5$
- 108. 7(2+5)-5
- 109. $4^2 + 5(3-1)$

110. What is the value of the expression $(3+2)^3$?

- a. 9
- 15 c.
- d. 125

____ 111. Evaluate the expression $6 + (11 - 3)^2$.
a. 112 b. 8

- 70
- d. 118

____ 112. Evaluate the expression $74 + 4^2 \div 2$.

- 106
- d. 82

Complete the statement using <, >, or =.

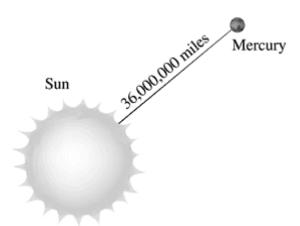
113. 1.45×10^{15} ? 8.97×10^{14}

- a. <
- b. =
- c. >

114. Which of the following shows the numbers in order from **least** to **greatest**?

- a. 7.6×10^5 , 7.6×10^4 , 6.7×10^5
- b. 7.6×10^4 , 7.6×10^5 , 6.7×10^5
- c. 6.7×10^5 , 7.6×10^4 , 7.6×10^5
- d. 7.6×10^4 , 6.7×10^5 , 7.6×10^5

115.



Which choice is equal to the distance from Mars to the Sun?

- 3.6×10^7 miles
- b. 3.6×10^6 miles
- c. 36×10^8 miles
- d. thirty-six hundred thousand miles

116. What is 380,000 written in scientific notation?

- a. 3.8×10^6
- b. 3.8×10^5
- c. 3.8×10^{-5}
- d. 3.8×10^{-4}

Write the number in scientific notation.

117. 22,900

118. 358.5

Write the number in standard form.

- 119. 4.8302×10^6
- 120. 4.61×10^4

Order the numbers from least to greatest.

121. 4.13×10^8 4.7×10^7 4.63×10^7 5.82×10^6

Choose the letter of the most reasonable measurement.

- 122. What is the amount of milk in a full jug?
 - a. 40 L
 - b. 296 mL
 - c. 1 L
 - d. 3750 mL
- ____ 123. The length of a pen is ?.
 - a. 16 cm
 - b. 16 mm
 - c. 16 km
 - d. 16 m

Copy and complete using the appropriate metric measurement.

- 124. The mass of a cat is 7 <u>?</u>.
- 125. The mass of a banana is 90 ?..
- 126. Would a refrigerator be about 2 centimeters tall?

Copy and complete the statement.

- ____ 127. 1461 mm = <u>?</u> cm
 - a. 146.1
 - b. 146,100
 - c. 14.61
 - d. 14,610

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____ 128. $47.9 \,\text{mm} = \underline{?} \,\text{cm}$

- a. 479
- b. 4790
- c. 0.479
- d. 4.79

Copy and complete the statement.

____ 129. 4727 mg = <u>?</u> g

- a. 0.473
- b. 4.727
- c. 47.27
- d. 472.7

130. 7,620,000 mL = ? L

131. 1793 g = ? kg

132. 3.42 kg = ? mg

Complete the statement with <, >, or =.

___ 133. 46.5 cm <u>?</u> 0.00465 m

- a. <
- b. >
- c. =

134. 5.1 *km* ? 5100 *m*

Order the measurements from least to greatest.

135. 360 mg, 3.5 g, 0.35 g, 0.35 kg, 3400 g

____ 136. A bag of pretzels weighs 37.5 grams. That amount is more than which of the following amounts?

- a. 3 kg
- b. 38 g
- c. 3750 mg
- d. 39 kg

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137. A statue stands 66.2 centimeters high. How many meters is this?

- a. 66.2
- b. 6.62
- c. 0.0662
- d. 0.662

Find the sum. Write your answer using the smaller unit of measurement.

- 138. $6.19 \,\mathrm{km} + 2500 \,\mathrm{cm}$
- 139. What is the difference in height between a plant that is 13 cm tall and a seedling that measures 44 mm tall?

Find the value of x that makes the mean the given number.

- 140. 34, 45, 32, 38, 47, x; mean = 37
- 141. Terry recorded the weights of the first ten fish he caught and released at Hag Lake this season. The weights were 20 pounds, 5 pounds, 14 pounds, 3 pounds, 21 pounds, 8 pounds, 16 pounds, 10 pounds, 17 pounds, and 21 pounds.
 - a. Find the mean, median, and mode.
 - b. Terry wants to predict how big the next fish he catches will be. Which measure is most useful for describing the data?
- __ 142. The stem-and-leaf plot below shows the number of calendars each student sold to raise money for the school band. How many students sold more than 7 calendars?

Number of Calendars Sold

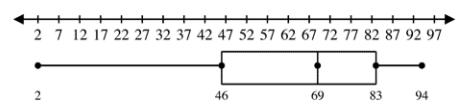
Key:
$$1 \mid 0 = 10$$

- a. 10
- b. 8
- c. 9
- d. 11

Make an ordered stem-and-leaf plot of the data.

- 143. Ages of committee members: 28, 47, 20, 36, 54, 39, 43, 52, 35, 51, 39, 53, 35, 54, 51
- 144. Hours spent sleeping: 7.5, 7.8, 8.3, 6.7, 8.9, 7.6, 8.3, 6.4, 7.4, 9.2, 7.7, 7.8

145. Ms. Alison drew a box-and-whisker plot to represent her students' scores on a mid-term test.

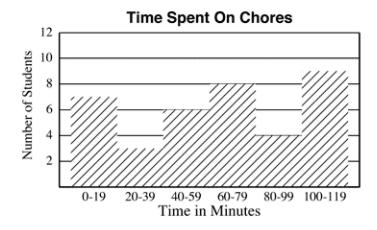


Jose earned 46 on the test. Describe how his score compares with those of his classmates.

- a. about 50% scored higher; about 50% scored lower
- b. about 75% scored higher; about 25% scored lower
- c. about 25% scored higher; about 75% scored lower
- d. about 75% scored higher; about 50% scored lower

Make a box-and-whisker plot of the data.

- 146. 41, 30, 28, 29, 27, 41, 34, 32, 27, 36, 32, 38, 39, 29, 29
- _____ 147. The histogram shows the number of minutes students at Montrose Junior High typically spend on household chores each day. About how many students spend 20-39 minutes on chores?



- a. 9 students
- b. 4 students
- c. 3 students
- d. 8 students

Copy and complete the frequency table using the data.

148. Average minutes spent on daily homework:

25, 35, 40, 15, 30, 85, 90, 100, 110, 15, 35, 64, 60

Interval	Tally	Frequency
?	?	?
?	?	?
61-90	?	?
91-120	?	?

149. Heights of plants in inches:

4, 13, 12, 3, 5, 8, 11, 6, 8, 4

Interval	Tally	Frequency		
3-5	?	?		
?	?	?		
?	?	?		
12-14	?	?		

150. Use the data below. It shows the number of hits made by 30 leading hitters in a Middle School Softball League.

108, 60, 76, 74, 116, 88, 68, 74, 108, 76, 78, 93, 116, 108, 96, 68, 88, 108, 60, 74, 68, 88, 78, 76, 108, 116, 84, 106, 96, 93

- a. Make a frequency table and histogram of the data.
- b. Make a conclusion from the data.

____ 151. Which of the following numbers is *not* composite?

- a. 9
- b. 15
- c. 21
- d. 7

152. Which of the following numbers is prime?

- a. 35
- b. 15
- c. 47
- d. 25

Write the prime factorization of the number.

153. 170

- a. $2^2 \times 5^2$
- b. $2 \times 5 \times 17$
- c. $2^2 \times 17$
- d. $5^2 \times 17$
- 154. 108
- 155. 1872

____ 156. Write the prime factorization of 300.

- a. $2 \times 3 \times 5^2$
- b. $2^2 \times 3^2 \times 5^2$
- c. $2^2 \times 3 \times 5^2$
- d. $2^2 \times 3 \times 5$
- 157. List all the factors of 36.
- 158. Make a factor tree for 230.

Find the greatest common factor of the numbers by listing factors.

- ____ 159. 20, 24, 44
 - a. 4
 - b. 12
 - c. 8
 - d. 44
 - 160. 30, 12

Find the greatest common factor of the numbers using prime factorization. Then tell whether the numbers are relatively prime.

- ____ 161. 30, 35
 - a. 1; relatively prime
 - b. 1; not relatively prime
 - c. 5; relatively prime
 - d. 5; not relatively prime

- 162. 95, 57
- _____ 163. A teacher has 20 notebooks, 50 erasers, and 100 pencils. He wants to divide them so that each portion has an equal number of notebooks, an equal number of erasers, and an equal number of pencils. What is the maximum number of portions he can make?
 - a. 2
 - b. 5
 - c. 20
 - d. 10
- 164. Which three fractions in the group of four fractions below are equivalent?

$$\frac{16}{20}$$
, $\frac{32}{40}$, $\frac{18}{20}$, $\frac{4}{5}$

a. $\frac{4}{5}$, $\frac{16}{20}$, $\frac{32}{40}$

c. $\frac{4}{5}$, $\frac{16}{20}$, $\frac{18}{20}$

b. $\frac{18}{20}$, $\frac{16}{20}$, $\frac{32}{40}$

d. $\frac{4}{5}$, $\frac{18}{20}$, $\frac{32}{40}$

Write the fractions in simplest form. Tell whether they are equivalent.

- 165. $\frac{48}{84}$, $\frac{140}{245}$
- 166. $\frac{126}{273}$, $\frac{48}{112}$

Find the LCM by listing multiples.

167. 18, 42

Find the LCM using prime factorization.

- 168. 6, 15, 20
- 169. 12, 30

Find the GCF and the LCM of the numbers using prime factorization.

- 170. 25, 135
- 171. 15, 40

Write the mixed number as an improper fraction.

172.
$$8\frac{1}{13}$$

Write the improper fraction as a mixed number.

 $---173. \quad \frac{27}{8}$

- a. $3\frac{3}{8}$
- b. $27\frac{1}{8}$
- c. $1\frac{8}{19}$
- d. $\frac{3}{8}$
- 174. $\frac{48}{7}$

Order the numbers from least to greatest.

- 175. $1\frac{1}{3}, \frac{13}{3}, \frac{79}{6}, 2\frac{3}{4}$
- 176. Jim measured his book as $7\frac{2}{5}$ inches long. Don measured it as $7\frac{7}{20}$ inches long. Which measurement is greater?

Write the fraction or mixed number as a decimal.

 $\underline{\hspace{1cm}}$ 177. $\frac{3}{8}$

- a. 0.375
- b. 2.66667
- c. 0.83
- d. 3.08

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____ 178. $3\frac{5}{12}$

- a. 3.45 b. 3.416
- c. 3.416
- d. 3.416

Write the decimal as a fraction or mixed number.

____ 179. 3.45

- a. $3\frac{9}{20}$
- b. $3\frac{69}{200}$
- c. $3\frac{3}{5}$
- d. $3\frac{9}{10}$

____ 180. 2.4

- a. $2\frac{1}{25}$
- b. $2\frac{2}{5}$
- c. $\frac{2}{5}$
- d. $2\frac{4}{5}$

____ 181. 0.015

- a. $\frac{3}{2}$
- c. $66\frac{2}{3}$
- d. $\frac{3}{200}$

182. 0.59

Write the fraction or mixed number as a decimal. Then tell whether the decimal is a terminating decimal or repeating decimal.

183.
$$\frac{23}{33}$$

184.
$$3\frac{3}{20}$$

Find the sum or difference.

 $\frac{185.}{9}$ 8 $\frac{1}{7}$ - 3 $\frac{1}{9}$

a. $5\frac{2}{63}$ b. 7 c. $\frac{4}{191}$ d. $6\frac{2}{63}$

Evaluate the expression when $x = 4\frac{2}{3}$, $y = 5\frac{3}{5}$, and $z = 6\frac{3}{4}$.

x+y-z

a.
$$4\frac{29}{60}$$
 b. $3\frac{29}{60}$ c. $4\frac{31}{60}$ d. $3\frac{31}{60}$

187. x + z

188. Sandra had 6 $\frac{11}{12}$ yards of fabric. She used 2 $\frac{5}{12}$ yards to make a banner. How much fabric does she have left?

Find the product. Simplify if possible.

189.
$$\frac{2}{49} \times 7$$

190.
$$9\frac{3}{7} \times 2\frac{1}{5}$$

Find the quotient.

191.
$$2\frac{1}{2} \div 3$$

192.
$$6\frac{1}{3} \div 9\frac{1}{4}$$

Evaluate the expression.

- _____ 193. $\left(2\frac{1}{4} \div 3\frac{3}{8}\right) \times 4\frac{1}{5}$

 - a. $\frac{3}{5}$ b. $2\frac{4}{5}$

194. $\left(4\frac{1}{3} - 2\frac{1}{4}\right) \div 5\frac{5}{8}$

Complete the statement.

- 195. 38 cups = ? quarts ? cups
 - a. 19, 0
 - b. 4, 6

- c. 7, 4
- d. 9, 2

- 196. $5\frac{1}{3}$ yd = _____ ft
- 197. 28 oz =_____ lb ____ oz

Find the sum or difference.

- 198. 2 ft 6 yd + 7 yd 2 ft
- The Stuarts bought a new couch that measures 5 feet long. The Stuarts' end tables are each 19 inches wide. How much space (length) is needed for one couch and two end tables?
 - a. 9 ft 1 in.

c. 6 ft 1 in.

b. 7 ft 2 in.

- d. 8 ft 2 in.
- 200. One bag of Chock Full of Chips cookies weighs $6\frac{1}{4}$ ounces. How many pounds will a dozen bags weigh?
 - a. 7 lb 5 oz

c. 4 lb 11 oz

b. 6 lb 3 oz

d. 4 lb 12 oz