Sumeya primary NO2 School

Mathematics worksheet for national examination for grade 8 learners

General instruction

- Print this paper if possible.
- Read and do each item carefully on your note book and prepare yourself for the national examination.
- Ask your teacher if there is any doubt during your work on the worksheet.
- You will submit and present some selected items from this worksheet.
- Keep the question paper carefully for further revision.

1. Which of the following statement is true about the set of numbers N.W,Z and Q?

A. $W \subseteq Z^+$ B.$Z^+ \subseteq N$ C.$Q^+ \subseteq W$ D. $Z \subseteq Q^+$

2. Which one of the following is not correct?

A. Every negative rational number is less than zero

B. Zero is less than every positive rational number.

C. Any positive rational number is greater than negative rational number.

D. Zero is greater than positive rational number.

3. Which of the following set of numbers is applicable under subtraction

A. The set of natural number. B. The set of whole number.

C. The set of positive rational number. D. The set of integer.

4. To which set of numbers does the set{-10,4) belong?

A. N B. W C. Z^+ D. Q

5. $\frac{3}{2} - \left(-\frac{8}{9}\right) + \left(-\frac{7}{8}\right) =$ _____

A. 4 B. 3 C. 2 D. 1

6. For any positive rational numbers m,n,x,and y if $\frac{m}{n} < \frac{x}{y}$, then which one of the following statement is not true?

$\boldsymbol{A.nx > ym}$ $\boldsymbol{B.\ n/m > y/x}$ $\boldsymbol{C.\ y/n < x/m}$ $\boldsymbol{D.\ n/y < m/x}$

7. what is the solution set of the equation $3|x + 1|$- 13 = -1 ?

A. No solution B. {-5,3} C. {-3,-5} D. 3,5}

8. Which one of the following equation has one solution?

$A.\ 5 - 2|6x + 1| - 9 = 0$ $C.\ 2 + |x| = -1$

$B.\ 7 - 3|9x - 2| - 13 = -6$ $D.\ -3|-2x + 1| - 13 = -1$

9. Which one of the following is defined in the form of positive rational number?

A. $\frac{m}{n}$,where m,n$\in Z$ C. $\frac{m}{n}$,where m,n$\in Z^-$

B. $\frac{m}{n}$,where m,n$\in Z\ n \neq 0$ D. a /b, b≠0

10. Which one of the following is an improper fraction?

A.$-\frac{4}{7}$ B.$\frac{4}{7}$ C. 8/0 D. none

11. Which one of the following shows the correct method to convert $-a\frac{c}{d}$, d≠ **0** into improper fraction?

A. $\frac{[(-a \times d)+7]}{d}$ B. $\frac{-[(a \times d)+c]}{d}$ C. $\frac{[(a \times d)+c]}{d}$ D. $\frac{-[(a \times c)+d]}{a \times d}$

12. Which of the following is the exact location of$-\frac{17}{30}$?

A. It is located half way between 1 and 2 C. It is located between 0 and 1

B. It is located between -1 and 0 D. It is located at the point labeled 2

13. Which one of the following is correct about rational numbers?

A. The sum of two rational numbers of opposite sign is always zero.

B. The quotient of two negative numbers is greater than the sum of two negative numbers.

C. The sum of two opposite numbers is negative.

D. Among two negative rational numbers, the one with the largest absolute value is greater than the other.

14. To which set of numbers does -568 belong?

Integer B. Natural number C. Whole number D. Positive rational number

15. Which one of the following alternatives shows the correct relationship among W, Z, Q?

A. $Z^+ \subseteq W \subseteq Z$ B.$N \subseteq Z \subseteq W \subseteq Q^-$ C. $\boldsymbol{Z}^- \subseteq Z \subseteq W$ D. $W \subseteq Z^+$

16. Of the following statements, select the correct inequality?.

A. $-4 > |-4.1|$ B. $-4 > |-4|$ C. $4 > |-4|$ D. $-5 < |-5.1|$

17. What is the value of $|6 + 2| - |-14 + 10|$.

A. 4 B. -4 C. 12 D. 32

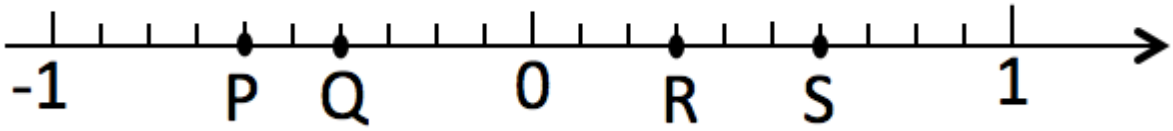
18. Which of the following is always true for any rational number x?

A. $|x| = x$ B. $|-x| = x$ C. $-|x| = |x|$ D. $|-x| = |x|$

19. Let y Є $\boldsymbol{Z}^-$ then $\frac{|y|}{y}$ = _____

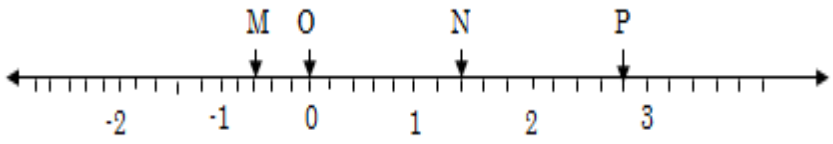
A. -1 B. –y C. 1 D.

20. What is the value of P whose corrosponding point is marked on the following number line?



$-\frac{4}{5}$ B. $-\frac{2}{5}$ C. $-\frac{3}{10}$ D. $-\frac{3}{5}$

21. Consider the following number line.



22. What is the value of N?

A. $2\frac{1}{5}$ B. $\frac{24}{5}$ C. $2\frac{3}{5}$ D. $\frac{1}{5}$

23. The sum $(\frac{15}{8} + (-\frac{9}{7})) + (-\frac{5}{7} + \boldsymbol{3}\frac{1}{8})$ equals _____.

A. 3 B. 8 C. 5 D. 7

24. Which one of the following properties best describe the statement given below?

$\frac{a}{b} \times \left(\frac{c}{d} + \frac{m}{n}\right) = \left(\frac{c}{d} + \frac{m}{n}\right) \times \frac{a}{b}$?

A. Associative property of addition of rational numbers.
B. Distributive property of multiplication over addition.
C. Commutative property of multiplication of rational numbers.
D. Commutative property of addition of rational numbers.

25. $5\frac{2}{7} - \left(-1\frac{5}{7}\right) =$ _____

A. 5 B. -5 C. 7 D. -7

26. Three students were given birr 4000 as a prize for their good rank in class. If the first got 1/4 of the prize, the second 1/5 of the prize and 1/10 of the prize for the third. How much will remain after they made their share?

A. birr 400 B. birr 3800 C. birr 200
D. birr 2000

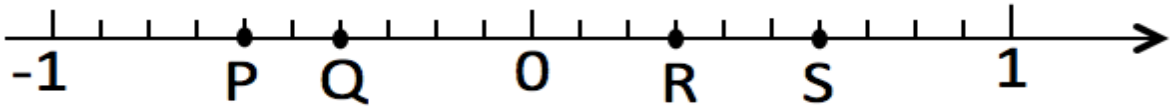
27. $\left(2\frac{3}{5} + \left(-3\frac{3}{5}\right)\right) \times \left(4\frac{1}{7} + (-5\frac{1}{7})\right) =$ _____

A. -1 B. -10 C. `10 D. 1

28. The simplified form of $\frac{3}{4} \div \left(\frac{1}{6} - \frac{2}{3}\right)$ is_____.

A. $-\frac{3}{2}$ B. $\frac{3}{2}$ C$\frac{-2}{3}$ D. $\frac{2}{3}$

29. Which point on the number line below represents the rational number -2/3?



A. P B. Q C. R D. S

30. The opposite of rational number $4\frac{2}{3}$is_____.

A. $\frac{14}{3}$ B. $-\frac{14}{3}$ C. 5/3 D.-4

31. Which of the following statements is true?

A. Every integer is a whole number C. Every rational number is an integer
B. Every rational number is a whole number D. Every integer is a rational number

32. Which of the following expressions is true?
A. $|2 - 3| = -1$ C. $|5 - 2| + |2 - 4| = 1$
B. $|-6| - |8 - 5| = -3$ D. $|5 + 2| - |5 - 2| = 4$

33. The simplified form of the erxpression is $\frac{-2+|-10+2|}{|1-3|}$ _____.
A. 3 B. -3 C. -4 D. 8

34. Which one of the following is true?
A. $-\frac{3}{5} < -\frac{2}{3} < -\frac{1}{2}$ B. $\frac{3}{5} > \frac{2}{3} > \frac{1}{2}$ C. $-\frac{3}{5} > -\frac{2}{3} > -\frac{1}{2}$ D. $-\frac{3}{5} > -\frac{1}{2} > -\frac{2}{3}$

35. $6\frac{1}{4} + 0.005 =$ _____
A. 6.255 B. 6.25 C. 6.0255 D. 6.00255

36. Bikiltu's net salary per month is birr 4000. She spends 2/5 of her income for house rent and 3/8 for buying food items. She saves the remaining. How much does she save per month?
A. birr 3100 B. birr 2700 C. birr900 D. birr 200

37. The simplified form of $\left(6\frac{4}{5} \div \frac{17}{25}\right) \times \frac{2}{15} - \frac{1}{6}$ is
A. $\frac{2}{6}$ B. $\frac{3}{6}$ C. $\frac{5}{6}$ D. $\frac{7}{6}$

38. Which one of the following is NOT rational number?
A. $\frac{1}{2}$ B . 4.27 C. 3.142857... D. 3.142

39. The set of integers are NOT CLOSED UNDER (practicable)---------.
A. Division B. Multiplication C. Subtraction D. Addition

40. Chose the rational number which lie between rational numbers 0 and 1?
A . 1.4 B. $\frac{1}{4}$ C. $\frac{6}{5}$ D. $1\frac{1}{2}$

41. _____ is a fraction in which the numerator is greater than or equal to the denominator .
A. Proper fraction B. positive number C. integer D. improper fraction

42. Which of the following contains all the other sets?
A. Natural number B. Whole number C. Integer D Rational number

43. Which of the following statement is TRUE about the set of numbers N,W,Z,Q?

A. $Z \subseteq W$ B. $Z^+ \subseteq N$ C. $Q \subseteq N$ D. $W \subseteq Z^+$

44. When (3/5+3/2)÷(8/3+1/3) is computed,
a. 3/8 B. 7/10 C. 35/2 D. -3

45. (1/7+3/14)×(3-1/5) is equal to _____.
A/ 1/2 B/ 3/2 C/ 2 D/ 1

46. 9. The Reciprocal of-(1)/12 is _____.
A/ ½ B/ - 12 C/ 12 D/ 2

47. 10. How many pieces, each 2 3/8 cm long, can be cut from a piece of wire 38 cm long?
A/ 26 B/6 C/ 16 D/21

48. If 3/10, 5/12 and 1/3 are written in increasing order, than which of the following is correct?

A. 3/10, 1/3 , 5/12 C/ 1/3, 5/12 , 3/10

B. 3/10, 5/12 , 1/3 D/ 1/3, 3/10 , 5/12

49. The sum of – 2/3and its opposite is_____.
A/ 2/3 B/ 0 C/ -3/2 D/ -2/3

50. What is the Value of M whose corresponding point is marked on the following number line ?

A/ -2/5 B/ -1 2/5 C/ -4/5 D/ -3/5

51. Under which operations does associative property is applicable?

A/ Addition and multiplication C/ Multiplication and Division

B/Addition and subtraction D/ Subtraction and Division

52. What principal will give if birr 750 is interestd at a rate of 6% in 2 years?
A/ 2500 birr B/6250 birr C/2650 birr D/7500 birr

53. The solution set of the absolute value equation 5+3 |x-3|=2 is_____

A/ {0,-1} B/ { } C/ {2,2} D/{4,5}

54. How many solutions does the equation 1- |3x-5| + 34 = -10 has?

A. No solution B. One solution C. Two solution D. Three solution

55. Suppose a/b and c/d are two rational numbers with positive denominators, then a/b>c/d , if and only if

A/ ad<bc B/ ad>bc C/ ad=bc D/ a=b

56. Which expression has the value of – 2?
A. |2|+|-4| B. |-2|-|-4| C. |4|-|2| D. |-4|+|2|

57. If Ato Abebe invested birr 10,000 with simple interest rate of 20%, how long will it take his money to be tripled?

A/ 30 years B/20 years C/ 10 years D/ 5 years

58. . What is the value of 100 divided by 0?
A/ 0 B/100 C/undefined D/ 1

59. What is the value of 2/3+(-1/6)
A/ -1/2 B/1/3 C/ 1/2 D/ 5/6

60. The product of two rational numbers is 48/5, if one of the rational number is 66/7, what is the other rational numbers?
A/ 50/62 B/56/55 C/ 22/31 D/ 45/23

61. What is the distance between 0 and -18?
A/-18 B/180 C/ 18 D/0

62. 2 1/3 _____ 31/2, which symbol is used for comparing the two fractions?
A/ < B/> C/ = D/ ≤

63. For a = 0, how many solutions does the equation lxl = a has?

A/ No solution B/Two solution C/ One solution D/ Empty set

64. What is the value of (xy-x)/(x+y,) when evaluate at x = 1/3 and y=3/4?

A. 12/13 B. (-1)/13 C. 13/12 D. 2/12

65. The opposite of -3 $-\frac{4}{7}$ is --------.

A .$\frac{25}{7}$ B. $\frac{4}{7}$ C. $3\frac{7}{4}$. D. $\frac{-25}{7}$

66. For any two rational number $\frac{a}{b} < \frac{c}{d}$ a,b,c,d ≠ 0 then which one of the following is true?

A. ab < cd B. ad > bc C. –ad > - bc D. ac < bd

67. The simplified form of [[1/2 + 1/2] ÷ 1/2] × [2/3 + 1/3] ÷ 1/4] is _____.

A. 1/8 B. ½ C. 2 D. 8

68. There are 40 students in a class and $\frac{4}{5}$ of them are male students. How many students are female?

A/**32** B/ **8** C/ **40** D/ **22**

69. One of the following is improper fraction.

A/ $\frac{1}{13}$ B/$\frac{25}{7}$ C/ $\frac{3}{5}$ D/ $\frac{1}{3}$

70. Between what consecutive integer does $-\frac{9}{2}$ exist ?

A/ **3 *and* 4** B/ $-$ **3 *and*** $-$ **4** C/ $-$ **4 *amnd*** $-$ **5** D/ **1 *and* 2**

71. If x = -22, then $|x|$ Is?

A/ - 22 B/ **12** C/ 22 D/ 122

72. Which of the following statement is NOT correct?

A. 7/2> |-7/2|

B. 4/3 < |-5/3| C . 2/5 < |-3/4| D. 0/25 > -4 1/3

73. Which one of the following statement is <u>NOT</u> true ?

A 0∈Q B. $\frac{0}{-6} \in W$ C.|-10| ∈ Q⁻ D. 6.2 ∈ Q +

74. Which one of the following statement is TRUE?

Every rational number is an integer C. Every natural number is a whole number

Every integer is a whole number D. Every whole number is natural number .

75. What is the solution set of |x-4| =10?
{ 14 } B. { -6,-14 } C. { } D. { -6,14 }

76. Which one of the following absolute value equation has 2 solution sets?
A .|X| = $6\frac{1}{2}$ B. -3|X+6| =10. C. -2|X-9|+6 =10 D. |X+6|+20=10

77. The solution set of 6-5|X-6| =-4 is--------.
A. { } B. {4,8 } C. { -8,8 } D. {4,6 }

78. Which of the following statement is TRUE?
9..76< 9.076 B. $2\frac{3}{5} > 3\frac{2}{5}$ C. $3\frac{5}{6} < 3\frac{7}{8}$ D .-0.007 > 0.0007

79. Which one of the following statement is NOT TRUE?
A. $Q^{+} > 0$ B. $Q^{-} < 0$ C. $N \subseteq W \subseteq Z \subseteq Q$ D. Q=Q+∪ Q—

80. Which one of the following statement is CORRECT?
A. -3|-6| = -6|-3| C. |3-102=|102+3|
B. |0-10| =|0|- |10| D.-0.2-|-10| = 9.8

81. The simplified form of |-8-3| - 10 |6-11| is-----
A. 39 B. – 39 C. -45 D . -61

82. The result of getting division is called ------.

A. Quotient B. Difference C . sum D. Product

83. What is the decimal representation of the fraction $\frac{3}{5}$?
A. 0.3 B. 0.5 C. 0.6 D. 0.8

84. Which of the following is an irrational number?
A. 0.75 B. 1.5 C. $\sqrt{6}$ D. $\frac{3}{4}$

85. What is the reciprocal of $\frac{2}{3}$?
A. $\frac{2}{3}$ B. $\frac{3}{2}$ C. $\frac{1}{6}$ D. $\frac{6}{1}$

86. Which of the following numbers is a rational number?
A. $\sqrt{5}$ B. 0.4 C. – 1.2 D. 2π

87. Mr. Johnson spent $\frac{2}{5}$ of his monthly salary on rent and $\frac{1}{4}$ on groceries. What fraction of his salary did he spend in total?
A. $\frac{3}{9}$ B. $\frac{9}{20}$ C. $\frac{7}{20}$ D. $\frac{13}{20}$

88. Convert the $5\frac{3}{7}$ to improper fraction.

A. $\frac{38}{7}$ B. $\frac{7}{38}$ C. $\frac{15}{7}$ D. $\frac{30}{7}$

89. The temperature at noon was -5 degrees Celsius. Throughout the day, the temperature increased 8 degrees Celsius. Which of the following statements is true?

A. -5 degrees Celsius is a whole number and a rational number.
B. -5 degrees Celsius is a natural number and a rational number.
C. -5 degrees Celsius is an integer and a rational number.
D. -5 degrees Celsius is an irrational number.

90. Convert the decimal 0.625 to a fraction in simplest form.

A. $\frac{5}{8}$ B. $\frac{5}{9}$ C. $\frac{5}{10}$ D. $\frac{5}{11}$

91. The sum of $(0.1+0.2)\frac{1}{2}$

A. $\frac{2}{10}$ B. $\frac{20}{3}$ C. $\frac{3}{20}$ D. $\frac{4}{19}$

92. Convert the fraction $\frac{17}{20}$ to a decimal.

A. 0.85 B. 0.875 C. 0.9 D. 0.95

93. The simplified form of $|\frac{-2}{5}+\frac{3}{8}| + |\frac{-11}{7}+\frac{4}{7}|$ is -----.

A. $\frac{21}{40}$ B . $\frac{41}{40}$ C. $\frac{41}{280}$ D. $\frac{40}{21}$

94. Which one of the following statement is NOT TRUE?

A. The product of an even number of negative factor is positive
B. The product of an odd number of negative factor is negative
C. The product of a rational number and 0 is itself a number.
D. The product of a rational number with at least one factor 0 is 0.

95. The sum of two rational numbers is $\frac{67}{12}$. If one of the number is $\frac{16}{3}$, then what is the other number ?

A $\frac{-1}{4}$ B. 4 C. $\frac{131}{12}$ D. . $\frac{1}{4}$

96. If x= -9 and y=6 ,then $\frac{|2x|-|3x-y|}{|2x-3y|}$ =------.

A $\frac{5}{12}$ B. $-\frac{12}{5}$ C. $-\frac{5}{12}$ D. $\frac{-1}{6}$

97. The difference of $4\frac{5}{6} - 2\frac{3}{2}$ is=------.

$\frac{29}{6}$ B. $\frac{13}{5}$ C. $\frac{67}{30}$ D. $\frac{4}{3}$

98. Ahusband is $32\frac{3}{4}$ years old and his wife is $27\frac{1}{8}$ years old. What is the age difference between the husband and his wife ?

A. $59\frac{7}{8}$ years B. 5 years C. $9\frac{5}{8}$ years D. $5\frac{5}{8}$ years

99. The simplified form of $\frac{\frac{15}{37}\left(\frac{4}{15}+\frac{23}{30}-\frac{5}{12}\right)}{\frac{1}{7}\left(\frac{14}{3}\div-\frac{1}{3}\right)}$ is equal to $---$

A. 2 B. $\frac{1}{4}$ C. $\frac{1}{8}$ D. $\frac{1}{2}$

100. There are 850 students at Biruh Tesfa primary school and $\frac{6}{10}$ of them are female students. How many students are male?

A . 255 B. . 340 C. 500 D. 510

101. The simplified form of $3\frac{2}{5}\div 0.2\div 0.6$ *is* $= - - -$

A . $\frac{85}{3}$ B. $20\frac{1}{5}$ C. $\frac{17}{5}$ D. $\frac{25}{500}$

102. *Five students divided* 1.45 *meters long sugercane in to* 5 *equal parts. how many meters o*

Sugarcane does each student get?

A. 7.25 B. $\frac{100}{29}$ C. 2.9 D. 0.29

103. If we divided $\frac{51}{8}$ for $\frac{9}{2}$. what result can we get?

A. $\frac{5}{4}$ B. $12\frac{11}{10}$ C. $1\frac{5}{12}$ D. $15\frac{11}{10}$

104. Which one of the following is NOT TRUE?

A. $\frac{4}{5}+\frac{1}{3}=\frac{17}{12}$ C. $\frac{4}{5}-\frac{1}{3}=\frac{7}{12}$

B. $\frac{4}{5}\times\frac{1}{3}=\frac{12}{5}$ D . $\frac{4}{5}\div\frac{1}{3}=\frac{12}{5}$

105. What is the solution set of $8|x+8|+12=6$?

A . { } B. $\{\frac{-35}{4}\}$ C. $\{-\frac{41}{4},\frac{-35}{4}\}$ D. $\{\frac{41}{4}\}$

106. Abraham has birr 3,000. If he gave $\frac{1}{6}$, $\frac{1}{3}$ and $\frac{1}{5}$ of his money for his 3 friends Respectively, how many birrs he left?

A. 900 B. 1,000 C.500 D .2,100

107. How many $\frac{1}{4}$ meters long pieces of board can be cut from 12 meter long board?

A. 3 B. 48. C. $\frac{1}{48}$ D.12 $\frac{1}{4}$

108. Which of the following numbers is not rational number?

A. 5 B. -3 C. ½ D.$\sqrt{2}$

109. What is the multiplicative identify of rational number?

B. 0 B. 1 C. 2 D. -1

110. Calculate the sum of $\frac{3}{4}$and $\frac{5}{6}$.

A. $\frac{1}{3}$ B.$\frac{7}{12}$ C. $\frac{1}{2}$ D. $\frac{19}{12}$

111. An integer can be

A. only positive B. only negative C. zero positive and negative D. none

112. By using the properties of rational number, solve the following equation (8 + 0) + (6 x 3)

A. 26 B. 24 C. 28 D. 0

113. Which of the following type of numbers are closed under the four operations

A. Rational number B. Integers C. whole number D. natural number

114. Which of the following rational number lies between - $\frac{4}{5}$ and - $\frac{7}{5}$

A. - $\frac{35}{45}$ B.- $\frac{36}{45}$ C.- $\frac{39}{45}$ D.- $\frac{63}{45}$

115. Which one of the following set of numbers is FALSE ?

N∩Q=Z^+ B. N∪Q=Q C. Z =Z− ∪ Z^+ D. Q- ∩ Q+= ∅

116. What is the simple interest on birr 700 at 12% rate for 3 months?

A. 721 B. 625 C. 1,400 D. 21

117. Birr 300 is invested at 6% simple interest per annum. how long will it take for the interest to amount Birr 180?

A . 10 years B. 12 years C. 8 years D. 24 years

118. Which group of numbers is ASCENDING ORDER?

A.$-1, -2, -1.4, \frac{-3}{2}$ C.$-1, -1.4, \frac{-3}{2}$,-2

B.$-2, \frac{-3}{2}$,-1.4,-1 D. -1.4, $\frac{-3}{2}$,-2, -1

119. Evaluate |-8+6| - |12-6| + |-12+6|

A. - 2 B. -1 C. 1 D. 2

120. Which of the following statement is true?

A.| 0.2 | = | -1.2 | C. | -3 | - | -2 | =-5

B. | 6-10 | < | -3-1 | D. |-5 -1 | > | -8 + 5 |

121. Which of the following is not true about properties of absolute value, if x and y are the set of rational no.

A. /x – y / = / y – x / C. /x + y / > / x / + / y /

B. /x + y / < / x / + / y / D. /x + y/ = 0 if y = - x

122. The solution set of 2 - /2x + 2 / = - 8 is

A. { - 6 } B. { } C. { - 4 , 6 } D. all Q

123. The simplified form of (1 + 1/10) (1 - 1/11) is _____

A. 1 B. 1/10 C. 1.5 D. 99/100

124. Which one of the following is TRUE?

A. Every rational number is an integer

B. Every integer is a whole number

C. Every rational number is a natural number

D. Every natural number is a whole number

125. 3. If x = 2 and y = -4, what is the value of -|-3x |+ | -2y|

A. 8 B. -14 C.2 D. -2

126. Abel's first semester result of his five subjects are given below.

Subjects	Result
Amharic	82.6
English	73.9
Mathematics	91.3
General	78.12
Science	83.6
Citizenship	83.601

Which one of the following is correct order of his mark in descending order?

A. Mathematics, Citizenship, Amharic, General science, English.

B. Amharic, General science, Citizenship, Mathematics, English.

C. Mathematics, English, General Science, Citizenship, Amharic.

D. Amharic, Mathematics, English, General science, Citizenship.

127. 7. For any three rational numbers a, b and c, which one of the following is

TRUE?

A. (a + b) - c = a + (b + c)

B. a + b = b – c

C. a + b = b + a

D. (a + b) – C = (a + b) + c

128. Lemlem's average mark in the class is 3.68% less than that of Kebede's average mark. If Kebede's average mark is 83.1%, what is Lemlem's average mark?

A. 80.38% B. 86.78% C. 79.42% D. 76.53%

129. What is the value of – 3.62 – 4.12?

A. 7.74 B. – 0.5 C. – 7.74 D. 0.511.

130. If we divided 17/8 for 3/2 what result can we get?

A. $\frac{2}{17}$ B. $\frac{17}{2}$ C. $\frac{34}{27}$ D. $\frac{27}{7}$

131. Abel has 300 birr. If he gave , $\frac{1}{3}$, $\frac{2}{5}$ and $\frac{1}{6}$ of his money for his three

132. friends respectively, how much money he left?

A. 64Birr B. 90 Birr C. 270 Birr D. 30 Birr

133. Robel deposited 10,000 Birr in a Bank with simple interest rate of 10% per annum, when will his money be doubled?

A. in 10 years B. in 15 years C. in 20 years D. in 30 years

134. Which one is the solution set of $|\frac{-3}{4}x| = 3$?

A. $\{-3, \frac{3}{4}\}$ B. $\{-3, 3\}$ C. $\{\frac{-3}{4}, \frac{3}{4}\}$ D. $\{-4, 4\}$

135. If $7 + 2|x + 5| = 11$ then, what is the values of x?

A. -7 and -3 B. -9 and -1 C. -6 and -4 D. -8 and -2

136. Which of the following sets of rational numbers are written in ascending order?

A. $\frac{6}{5}, \frac{5}{4}, \frac{4}{3}$ B. $\frac{4}{3}, \frac{5}{4}, \frac{6}{5}$ C. $\frac{-6}{5}, \frac{-5}{4}, \frac{-4}{3}$ D. $\frac{5}{6}, \frac{4}{5}, \frac{3}{4}$

137. For any two rational numbers $\frac{a}{b} < \frac{c}{d}$ a , b , c and d≠0 then which one of the following is true?

A. $ab < cd$ B. $ad > bc$ C. $-ad > -bc$ D. $ac < bd$

138. Which of the following number is between $\frac{4}{5}$ *and* $\frac{5}{6}$?

A. $\frac{49}{60}$ *B.* $\frac{49}{90}$ *C.* $\frac{7}{11}$ *D.* $\frac{10}{12}$

139. If $\frac{a}{b}$ *and* $\frac{c}{d}$ are two distinct rational numbers and $\frac{a}{b} + \frac{c}{d} = \frac{a+c}{d}$ then which of the following is true?

A. d=0 B. d=1 C. b=d D. d=ac

140. The simplified form of $\frac{\frac{1}{2}+\frac{2}{3}}{\frac{3}{4}-\frac{4}{3}} + \frac{3+\frac{1}{3}}{\frac{3}{2}-\frac{2}{3}}$ is;

A. -2 B. -1 C. 0 D. 2

141. The value of $\frac{6x + 3y}{x^2 - y^2}$ when evaluated at x=2 and y=-1 is

A. $\frac{9}{5}$ B. $\frac{2}{5}$ C. $\frac{3}{5}$ D. 3

142. Which of the following statement is true in the set of numbers?

A. $7/2 \in W$ C. $0 \in N$

B. $0.2 \in Z+$ D. $-5 \in Z-$

143. A certain amount of money invested at the rate of 10% simple interest. What is the time required to double the investment?

A. 2 years C. 8 years
B. 4 years D. 10 years

144. If Birr 1500 invested at 6% simple interest per annum for 3 years. Find the amount after 3 years

A. Birr 270 B. Birr 1770 C. Birr 1500 D. Birr 1000

145. If a=6 and b=7 then what is the value of $\frac{-a-\frac{a}{b}}{a+\frac{a}{b}}$?

A. -1 B. 1 C. $\frac{4}{3}$ D. $\frac{3}{4}$

146. What is the simplified form of $\frac{\frac{1}{8}\div(\frac{1}{4}-\frac{1}{3})}{\frac{4}{3}+\frac{1}{2}(\frac{1}{2}\div\frac{3}{2})}$

A. -1 B. $^1/_3$ C. $^2/_3$ D. $^{-3}/_2$

147. The cost of $^7/_2$ meters of cloth is birr $^{231}/_4$. What is the cost of one meter of cloth?

A. $^{32}/_2$ B. $^{33}/_2$ C. $^{21}/_2$ D. $^{22}/_3$

148. Which of the following true about the set of rational numbers?

A. The union of the set of terminating and repeating decimal number
B. $\{^a/_b$: a. b ∈N$\}$
C. $\{^a/_b$: a, b ∈ W$\}$
D. $\{^a/_b$: a, b ∈ z and b≠ o$\}$

149. If $^1/x = {}^2/_5 \div {}^4/_5$, then find the value of 'X'.

A) ½ B) 2 C) 1 D) $^5/_2$

150. If a = $^{-3}/_4$, b = -3/2 then a/b= _____

A) $^9/_8$ B) $^{-9}/_8$ C) ½ D) $^{-1}/_2$

151. 4. $1\,{}^3/_5 + 1\,{}^2/_7 + {}^3/_2 =$

A) $^{307}/_{70}$ B) $^{455}/_{60}$ C) $^{80}/_{35}$ D) $^{97}/_{35}$

152. If A is a rational number between -1 and 0, which of the following is not more than A?

A. $^{-1}/_A$ B. $^1/_A$ C. 1-A D. A^2

153. Melat earns birr 16,000 per month. She spends $^{1}/_{4}$ of her income on food, $^{3}/_{10}$ of the remainder on house rent and $^{5}/_{21}$ of the remainder of the education of children. How much money is still left with her?

A. Br. 6400 B. Br. 2400 C. Br. 4500 D. Br. 6450

154. A car is moving at an average speed of $^{202}/_{5}$ $^{km}/_{hr}$. How much distance will it cover in $^{15}/_{2}$ hr?

A. 300km B. 240 km C. 290km D. 303 km

155. Which of the following statement is true?

A. $7\frac{2}{3} > \frac{23}{3}$ B. $^{-3}/_{5} < |^{3}/_{5}$ C. $9\frac{2}{3} = \frac{29}{3}$ D. 6.53< 6.053

156. How long will it take for Birr 1200 to get Birr 360 simple interest at rate of 6%

per annum.

A. 4 years B. 3 years C. 5 years D. 6 years

157. What will be the amount if birr 700 is invested in a simple interest at rate of 12% in three months?

A. 21 B. 70 C. 721 D. 952

158. The sum of the ages of a man and his wife is 96 years .The man is 12 years

older than his wife. Find the present age of the man.

A. 96 B. 42 C. 108 D. 54

159. What is the solution set of the equation $3|x+1|=12$?

A. {3,5} C. {-3,5}

B. {3,-5} D. {-3,-5}

160. How long will it take to get Birr 160 simple interest if the initial amount is Birr 100 and the rate of interest is 8%

A. 1 year C. 2 years B. 3years D. 4 years

161. One of the following is not a perfect square number?

A. 9 C. 1/4

B. $2\frac{1}{4}$ D. 0.001

162. If (3.25)2 = 10.5625, then what is the value of 3252 ?

A. 105.625 C. 105,625

B. 1,056,250 D. 1,056.25

163. If the area of a square is 81 cm2 , then what is the length of its side?

A. 81cm B. 27cm C. 18cm D. 9cm

164. $\sqrt{\mathbf{0.0169}}$ is equal to _____

A. 0.13 B. 13 C. 1.3 D. 0.013

165. If m is the cube root of n , then n is _____

A. m^3 B. $\sqrt{\boldsymbol{m}}$ C. $\frac{\boldsymbol{m}}{\mathbf{3}}$ D. $\sqrt[3]{\boldsymbol{m}}$

166. $\sqrt{\mathbf{7\frac{1}{9}}}$ = _____

A. $\frac{\mathbf{64}}{\mathbf{9}}$ B. $\frac{\mathbf{8}}{\mathbf{3}}$ C. $\frac{\mathbf{9}}{\mathbf{64}}$ D. $\frac{\mathbf{3}}{\mathbf{8}}$

167. $\sqrt[3]{\mathbf{216}}$ - $\sqrt[3]{\mathbf{64}}$ is equal to _____

A. 6 B. 3 C. 2 D. 1

168. Which of the following statement is not true?

A. $-3^2 = 9$ B. $-3^2 = (-3)^2$ C. $X^2 = 2x$ D. all

169. The simplest form of the expression $\frac{\sqrt[3]{24}}{\sqrt[3]{3}}$ is _____

A. 1 B. 2 C. 3 D. 4

170. Which of the following statement is true?

A. $\sqrt{\frac{\boldsymbol{a}}{\boldsymbol{b}}} = \frac{\sqrt{\boldsymbol{a}}}{\sqrt{\boldsymbol{b}}}$ B. $\sqrt{\boldsymbol{ab}} = \sqrt{\boldsymbol{a}} - \sqrt{\boldsymbol{b}}$ C.$(ab)^2 = a^2b^2$ D. all

171. What is the simplified form of $\sqrt{\mathbf{0.09}}$?

A. $^9/_{100}$ B) $^9/_{10}$ C) $^3/_{10}$ D) $^3/_{100}$

172. Which one of the following is perfects square and perfect cube?

A) 27 B) 16 C) 36 D) 64

173. If $(1.277)^2 = 1.628$, then $\sqrt{\mathbf{162.8}}$

A/ $\mathbf{12.77}$ B/ $\mathbf{0.01277}$ C/ $\mathbf{1.277}$ D/127.7

174. 6. The simplified form of $\sqrt{\mathbf{48}} - \sqrt{\mathbf{27}}$?

A/ $3\sqrt{\mathbf{3}}$ B/ $\sqrt{\mathbf{3}}$ C/ $5\sqrt{\mathbf{2}}$ D/ $2\sqrt{\mathbf{2}}$

175. 7. 12. Which one of the following statement is false?

A/ $\mathbf{2}^3 = \mathbf{2} \times \mathbf{3}$ B/$\mathbf{4}^3 = \mathbf{16} \times \mathbf{4}$ C/$(-\mathbf{3})^3 = -27$ D/ $1^3 = 1$

176. In the expression $y = \sqrt[3]{\boldsymbol{b}}$, 3 is said to be_____.

A/***radical*** B/***radicand*** C/ ***index*** D/ ***standard form***

177. When we write $\sqrt[3]{\mathbf{10}}$ in the exponential form, which one is true?

A/ $\sqrt[3]{\mathbf{10}} = 10^3$ B/$\sqrt[3]{\mathbf{10}} = 10^{1/3}$ C/ $\sqrt[3]{\mathbf{10}} = 3^{10}$ D/ $\sqrt[3]{\mathbf{10}} = 3^{1/3}$

178. If $2 + \sqrt{\mathbf{5} - \boldsymbol{x}} = \mathbf{6}$, then what is the value of x?

A/ 11 B/$-\mathbf{11}$ C/ $\mathbf{1}$ D/ 9

179. If $x = 8^2 + 5^2$, then what is the value of x?

A/ 100 B/ 13 C/40 D/89

180. What is the side of the cube whose volume is $1000cm^3$?

A/ 10 cm B/100 cm C/ 1 cm D/1000 cm

181. Which one of the following statements is true?

A/ $\boldsymbol{a}^2 = \boldsymbol{a} + \boldsymbol{a}$ B/ $\boldsymbol{a}^2 = \mathbf{2}\boldsymbol{a}$ C/ $\boldsymbol{a}^2 = \boldsymbol{a} \times \boldsymbol{a}$ D/ $\boldsymbol{a}^2 = 2^a$

182. Which one of the following is true about the expression $\sqrt[3]{\boldsymbol{a}} = \boldsymbol{b}$?

A/ $\boldsymbol{b} = \boldsymbol{a}^2$ C/ b is the square root of a

B/ ***b is the cube root of a*** D/ $\boldsymbol{a} = \boldsymbol{b}$

183. Which one of the following is true?

A/ $100 < (\mathbf{12.2})^2 < \mathbf{121}$ B/ $9 < (\mathbf{4.5})^2 < \mathbf{25}$

C/ $121 < (\mathbf{11.5})^2 < \mathbf{144}$ D/ $25 < (\mathbf{5.2})^2 < \mathbf{36}$

184. What is the cube root of the number 0.000343?

A/$\mathbf{0.017}$ B/$\mathbf{0.07}$ C/ $\mathbf{0.007}$ D/ $\mathbf{0.0017}$

185. 27. 3031. Which one of the following is the squares of odd numbers?

A/ 225 B/196 C/ 484 D/ 324

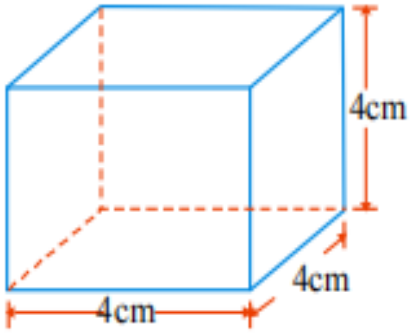
186. $(\mathbf{218})^2 - (\mathbf{217})^2$ = _____

A/ 335 B/435 C/ 1 D/ 0

187. 33. What is the side length of the square with area 289 cm^2.

A/289 cm B/189 cm C/ 17 cm D/ 71 cm

188. What is the total surface are of the following cube?



A. **$36cm^2$**	**C. $16cm^2$**
B. $96cm^2$	**D. $64cm^2$**

189. 34. What will be the sum of seven consecutive odd integers next to 41?

A/ 343 B/243 C/ 433 D/ 324

190. 35 If x=-30/7 then what is the value of x^2?

A. $-\frac{900}{49}$ ***B***. . $\frac{90}{49}$ C. . $-\frac{90}{49}$ D. . $\frac{900}{49}$

191. Which one of the following is a perfect square?

A. $\frac{36}{7}$ B. 125 C. 625 D. 0.144

192. What is the next non-negative rational number? 1, 9, 25, 49,81 ___

A. 121 B. 100 C. 169 D. 59

193. If (25.4)2=645.16, then find (254)2.

6451 645.16 6451.6 64516

194. 7245^2-44^2 = _____

A. 90 B. 79 C. 1 D. 89

195. What is the sum of the first 110 odd integers?

A. 121 B. 1210 C. 12100 D. 1210000

196. If x = 29.1, then x^2 is approximately equals to_____

A. 841 B. 900 B. 400 C. 890

197. Which of the following statement is <u>true</u> about the set of a number N, W, Z and Q?

W ⊆ Z^+ B. $\boldsymbol{Z^+ \subseteq N}$ C. $\boldsymbol{Q^+ \subseteq W}$ D. $\boldsymbol{Z \subseteq Q^+}$

198. Which one of the following is <u>not</u> correct statement?

A. Every negative rational number is less than zero.

B. Zero is less than every positive rational number.

C. Any positive rational number is greater than negative rational number

D. Zero is greater than any positive integer number.

199. Which one of the following is equal to $\frac{5}{9}\left[\frac{3}{7}\times\frac{21}{35}\right]$

A. $\frac{7}{3}$ B. $\frac{1}{5}$ C. $\frac{5}{3}$ D. $\frac{1}{7}$

200. Which one of the following statement is True?

A. $|0.2|+|-1.2|=1$ C. $|6-10|<|-3-1|$

B. $|-3|-|-2|=-5$ D. $|-5-1|>|-8+5|$

201. When the expression $2\frac{2}{3}+4\frac{1}{4}-5\frac{1}{6}+\frac{2}{3}$ is simplified the result is

A. $1\frac{1}{4}$ B. $2\frac{5}{12}$ C. $-3\frac{1}{3}$ D. $2\frac{1}{6}$

202. The sum of Haile and Abebe's age is 56 and before four years Haile is three times Abebe's age. How old is Abebe's age?

A. 16 Years B. 40years C. 56years D. 64years

203. If $7+2|x+5|=11$ then which of the following numbers are the values of x?

A. -7 and -3 B. -9 and -1 C. -6 and -4 D. -8 and -2

204. Which one of the following is False statement?

A. $7<\sqrt{50}<8$ B. $6<\sqrt{48}<7$ C. $10<\sqrt{90}<11$ D. $5<\sqrt{35}<6$

205. What is the simplest form of $\sqrt[3]{3\frac{3}{8}}$?

A. $\frac{3}{8}$ B. $\frac{2}{3}$ C. $\frac{3}{2}$ D. $3\frac{3}{8}$

206. If $\sqrt{\frac{2}{3}a+2}=6$, find the value of "a"

A. 21 B. 43 C. 48 D. 51

207. If $(1.95)^3=7.415$ then what is the value of $\sqrt[3]{7415}$?

A. 1.95 B. 19.5 C. 195 D. 0.195

208. Which one of the following number is perfect cube.

A. 216 B. 625 C. 576 D. 256

209. If the volume of the cube is 729cm^3 find the side of the cube

A. 9cm B. 81cm C. 27cm D. 729cm

210. A rational number x is called a perfect cube if and only if for some $\boldsymbol{n \in Q, x}$ is equal to:

A. n^2 B. $\sqrt[3]{\boldsymbol{n}}$ C. n^3 D. 3n

211. Which of the following mathematical sentence is true?

$A. \sqrt{50} \div \sqrt{2} > 5$ C. $11 < \sqrt{136} < 12$

$B. \sqrt{0.001 = 0.1}$ D. $2\sqrt{5} > \sqrt{21}$

212. Which one of the following is perfect cube?

A) 120 B) -125 C) 130 D) -145

213. The simplified from of $\sqrt[3]{\frac{27}{343}}$ ***is***

A) $^3/_5$ B) $^3/_6$ C) $^3/_7$ D) $^1/_{27}$

214. 7. The approximate value of $(1.567)^3$ is

A) 2 B) 4 C) 6 D) 8

215. The simplified form of $^3/_5 \div [^4/_5 - ^5/_6]$ is

A) 18 B) -17 C) -18 D) 17

216. If the volume of the cube is 729 cm^3, what is the length of each sides?

A) 8cm B) 9cm C) 11cm D) 12cm

217. 11. If $\sqrt{\boldsymbol{10.24}}$ = 3.2, then find $\sqrt{\boldsymbol{1024}}$

A) 32 B) 3.2 C) 102.4 D) 1.024

218. If X = -0.3, then what is the value of X^3

A) $^{-27}/_{1000}$ B) $^{-9}/_{100}$ C) $^{9}/_{100}$ D) $^{-3}/_{10}$

219. The simplified form of $\sqrt{\frac{0.0036}{0.0025}}$ is

A $^{36}/_{25}$ B) $^{25}/_{36}$ C) $^{6}/_{5}$ D) $^{5}/_{6}$

220. Which one of the following is perfect cube?

A) 0.0001 B) -0.0001 C) 0.01 D) -0.001

221. If X = -5a, What is the value of X^3?

A) 125a B) -125a C) $-125a^3$ D) $125a^3$

222. $X^3 = \underline{-1}$, then what is the value of X ?

223. The approximate value of $(1.05)^2$ is

A) 1. 21 B) 1.01 C) 1.31 D) 1.11

224. If $\sqrt[3]{7.415} = 1.95$, then what is the value of $\sqrt[3]{7415}$

A) 0.195 B) 19.5 C) 195 D) 1950

225. The simplified form of $\sqrt{\frac{1}{8}}\, x\, \sqrt{32}$ is

A) ½ B) $1/\sqrt{2}$ C) $\sqrt{2}$ D) 2

226. If $\sqrt[3]{\frac{1}{3}}\, x = -0.1$ then, what is the value of X?

A) 0.001 B) -0.001 C) 0.003 D) -0.003

227. $^{5}/_{6} - {}^{6}/_{7} =$ _____

A) $^{-1}/_{7}$ B) $^{-1}/_{6}$ C) $^{-1}/_{42}$ D) $^{1}/_{42}$

228. If the area of square is 81 cm^2,what is the length of each side

A) 9cm B) 10cm C) 11cm D) 12cm

229. Which one of the following is true.

A) $\sqrt{0.9} = 0.3$ B) $\sqrt{0.16} = 0.04$ C) $\sqrt{0.4} = 0.2$ D) $\sqrt{0.81} = 0.9$

230. The sum of two numbers is 85 and their difference is 15. What are the number?

A) 20 and 65 B) 40 and 45 C) 35 and 50 D) 60 and 25

231. Which one of the following is true?

A) $^{2}/_{5} > {}^{4}/_{5}$ B) $^{5}/_{6} < {}^{6}/_{7}$ C) ¾ > $^{4}/_{5}$ D) $^{7}/_{8} < {}^{6}/_{7}$

232. If $\sqrt[3]{3x-1}$ = 2 then what is the value of X?

A) 3 B) 2 C) 1

D) ½

233. If a = 1 ½ , b = 2 ¼ and C = 2 $^{2}/_{3}$, then what is the value of a x b x c?

A) 3 B) $^{1}/_{3}$ C) 6 D) 9

234. Which one of the following is equivalent to 3 ½ ?

A) $^{2}/_{7}$ B) $^{4}/_{7}$ C) $^{21}/_{7}$ D) $^{21}/_{6}$

235. If X^2 = 0.64, then hat is the value of X?

A) ½ B) ¾ C) $^{5}/_{4}$ D) $^{4}/_{5}$

236. The simplified form of $\sqrt[3]{3\frac{3}{8}}$ *is*

A) $^{3}/_{2}$ B) $^{2}/_{3}$ C) $^{1}/_{3}$ D) ¾

237. Which of the following pairs are not equivalent?

A) $^{5}/_{6}$ and $^{65}/_{78}$ B) $^{3.5}/_{4}$ and $^{84}/_{96}$ C) $^{3}/_{7}$ and $^{36}/_{84}$ D) $^{1.2}/_{3}$ and $^{26}/_{65}$

238. $\frac{(-5)(12)-(-4)}{3(-6+2(-5)} =$ _____

A. 2 B) -2 C) 4 D 3

239. $1\ ^{5}/_{8} \div [4\ ^{1}/_{3} \times ¾]$ = _____

A) ½ B) 2 C) 1 D) 3

240. If $2 + |\ ^{1}/x - 2|$ = ½, then what is the value of X?

A) $^{9}/_{4}$,$^{7}/_{4}$ B) $^{4}/_{9}$, $^{4}/_{7}$ C) $^{7}/_{9}$, $^{4}/_{7}$ D) $^{9}/_{7}$, $^{4}/_{9}$

241. If $1/x = [¾ + 2\ ½ - {}^{4}/_{5}] \div {}^{3}/_{5}$, then what is the value of X?

A) $^{2}/_{9}$ B) $^{12}/_{49}$ C) $^{49}/_{12}$ D) ¼

242. If a = 1 ½ , b = 2 ¼ C = $2^{2}/_{3}$, then what is the value of

A) 3 B) $^{1}/_{3}$ C) 6 D) 9

243. The simplified form of $\sqrt[3]{-\frac{8}{27}}$ is _____

A) $^{1}/_{3}$ B) $^{-1}/_{3}$ C) $^{2}/_{3}$ D) $^{-2}/_{3}$

244. Which of the following is not true

A. The square of even number is even

B. The square of odd number is odd

C. The difference of the square of two consecutive number is 1.

D. None

245. Which of the following numbers is a perfect square?

A. 16 B. 18 C. 20 D. 22

246. Which of the following numbers is a perfect cube?

A. 27 B. 32 C. 36 D. 40

247. What is the square root of 64?

A. 6 B. 7 C. 8 D. 9

248. What is the value of 6 cubed?

A. 216 B. 228 C. 240 D. 252

249. What is the cube root of 512?

A. 6 B. 8 C. 10 D. 12

250. What is the value of $(\sqrt{\mathbf{4}})^{2}$?

A. 1 B. 2 C. $\sqrt{\mathbf{2}}$ D. 4

251. What is the cube root of 0.001?

A. 0.01 B. 0.1 C. 0.3 D. 0.03

252. What is the value of $(4 \times 3)^{2}$?

A. 64 B. 144 C. 256 D. 512

253. What is the value of $\sqrt{(\mathbf{16})^{\mathbf{2}}}$?

A. 4 B. 8 C. 16 D. 32

254. What is the cube root of 0.008

A. 0.02 B. 0.08 C. 0.2 D. 0.8

255. The length of a side square is 5 centimeters. What is the area of the square?

A. 5cm B. 25cm C. $5cm^2$ D. $25cm^2$

256. A square painting has an area of 196 square meters. What is the length of each side of painting?

A. 196m B. 29m C. 14m D. 1m

257. The volume of a cube 1000 cubic meters. What is the length of each side of the cube?

A. 10m B. 100m C. 15m D. 200m

258. The side length of a cube is 7 centimeters. What is the volume of the cube?

A. $343cm^3$ B. $49cm^3$ C. $7cm^3$ D. 21cm

259. Which of the following statement is true?

A. $\frac{\sqrt{27}}{\sqrt{3}} = \sqrt{\frac{27}{3}}$ B. $\frac{\sqrt{18}}{\sqrt{2}} = \sqrt{9}$ C. $\frac{2\sqrt{625}}{50} = 1$ D. all

260. Which of the following numbers is paired with its square?

A. 15 & 225 B. 9 & 36 C. 16 & 100 D. 4 & 64

261. 22.Suppose (2.13) 2 = 4.5369, what is the exact value of √ ?

A. 0.213 B. 2.13 C. 21.3 D. 213

262. 23.Which of the following numbers is a perfect cube?

A. 224 B. 1 C. 196 D. 100

263. If the length of side of a cube is 10cm, then what is the volume of the cube?

A. 125cm 3 C. 1,000cm 3

B. 100cm3 D. 10,000cm3

264. Which of the following numbers is paired with its cube root?

A. 20,736 & 12 C. 3,375 & 15

B. 1,000 & 100 D. 16 & 4

265. Which one of the following is TRUE?

A. The cube root of a negative number is negative.

B. The cube root of a positive number is negative.

C. The cube root of a negative number is positive.

D. The cube root of zero is positive.

266. In the expression √ , then x is said to be

A. Radical B. Radicand C. Index D. cube root

267. One gallon of ink can paint an area of 6m2 . How much gallon of ink is needed to paint a box in the shape of a cube whose side is 4m?

A. 160 gallon of ink C. 26 gallon of ink

B. 24 gallon of ink D. 16 gallon of ink

268. Alemayehu has a garden in the shape of a square. If he enlarges its side by 3 meters, the area of the new garden increased by 63m2 . What is the area of the first garden?

A. 81 m 2 B. 144 m2 C. 63m2 D. 225m2

269. Which of the following number is both perfect square and perfect cube?

A. 343 B. 729 C. 144 D. 225

270. Which one of the following is false?

A. $(-60)^2 = 3600$ B. $-50^2 = -2500$

C. $-\sqrt{\frac{25}{49}} = -\frac{5}{9}$ D. $\sqrt{64} = 8^2$

271. Which one of the following is TRUE?

A. 100 < (9.2)2 < 121

C. 16 < (4.3)2 < 25

B. 64 < (7.5)2 < 81

D. 25 < (6.2)2 < 3619.

272. Which one of the following numbers is not cubic number?

A. 125 B. 252 C. 343 D. 512

273. What is the cube root of the number 0.000216?

A. 0.006 B. 0.16 C. 0.06 D. 0.016

274. The simplified form of the expression $\sqrt{\frac{1}{7}} \times \sqrt{63} \times \sqrt{\frac{1}{4}}$

A. 6 B. $\frac{1}{3}$ C. 3 D. $\frac{3}{2}$

275. If $(1.93)^2 = 3.803$, then find $\sqrt{0.03803}$

A. 1.95 B. 0.195 C. 19.5 D. 0.0195

276. Which one of the following is the simplified form of the expression

$3\sqrt{108} + 4\sqrt{75}$

A. $2\sqrt{3}$ B. $-2\sqrt{3}$ C. $-38\sqrt{3}$ D. $38\sqrt{3}$

277. If $\sqrt[3]{9.415} = 2.112$ then $\sqrt[3]{9415}$ is equal to;

A. 2112 B. 0.2112 C. 21.12 D. 2.112

278. Which one of the following is NOT TRUE ?

A. $0^2 = 0$ B. $a^2 = 2 \times a$ C. $(a \times b)^2 = a^2 \times b^2$ D. $a \times a = a^2$

279. If x= =0.07, then x^2=----?

A. 0.049 B. 0.014 C. 0.0049 D.4900

280. Which one of the following rational number is NOT perfect square?

A. 441 B. 0.36 C. 1/121 D.0.001

281. What is value of x if √(3&2x-1) = 2

A. 7⁄2 B. 9⁄2 C. (-7)⁄2 D. 3

282. 3√(50) + 4√(72) - 5 √(8) is equal to;

A. 20√(2) B. 45√(2) C. 49√(2) D. 29√(2)

283. If the volume of the cube is equal to 1331 cm3 then what is the length of each edge of the cube?

A. 11 cm B. 9cm C. 71 cm D. 81 cm

284. The simplified form of $\sqrt[3]{\frac{49.13}{33.75}} \div \sqrt[3]{\frac{10.648}{1.728}}$

A. $\frac{35}{39}$ B. $\frac{34}{59}$ C. $\frac{34}{55}$ D. $\frac{24}{55}$

285. Which one of the following statement is not true?

A. The square root of 0.64 is 0.8

B. There is no square number between 70 and 80.

C. The product of two perfect square is perfect square.

D. 629 is perfect square

286. If $\sqrt[3]{4x+3}$ = 3, then x^2 = _____

A. 6 B. 36 C. 0 D. 27

287. If $(5.43)^2 = 29.48$, then what is $(543)^2$?

A. 2,948 C. 0.002948

B, 294,800 D. 2,948,000

288. What is the simplified form of $(\sqrt{2} \square \sqrt{2}+\sqrt{8})$?

A. 4 C. 16

B. 8 D. 6

289. The value $\sqrt{128}+\sqrt{98}$ is .....?

A. $2\sqrt{15}$ C. $3\sqrt{5}$

B. $5\sqrt{3}$ D. $15\sqrt{2}$

290. What is the cube root of $125x^{18}$

$5X^4$ C. $5X^6$

B. $5X^8$ D.10 X

291. If $1000cm^3$ is the volume of a cube, then what is the total surface area of the cube?

A. 4 cm C. 5cm

292. Which of the following is not correct?

A. The square and cube of a rational number is rational number.

B. The square root of perfect square is whole number.

C. The square root of perfect square may not be natural number.

D. The cube root of perfect cube is whole number.

293. Which of the following is always true?

A. X2 > 0 B. X3 0 C. X2 + X3> 0 D. X2+1>0

294. If 2 + 3√5 + √125= 17.88. What will be the value of √180 + √500

B. 17.88 B. 19.88 C. 31.76 D. 22.35

295. For any two rational number x and y such that X Y , then what is the value of($\frac{x-y}{y-x}$)^{3} is

A. 1 B. -1 C. x + y D. x – y

296. If (xy)2 + 1 = 10 , then What is the product of x and y?

A. 9 B. -3 C. 27 D.-9

297. The solution set of the equation for $\sqrt{3x-5} = -5$ is ;

A. { 33 } B. { } C. { -9 } D. { -33 }

298. The solution set of the equation for $\sqrt{2x-2} = 4$ is ;

A. { 33 } B. { 9 } C. { -9 } D. { -33 }

299. Which is the cube root of the number 0.000216?

A. 0.006 C. 0.06

B. B. 0.16 D. 0.16

300. The rational number x is called a perfect cube if and only if for some n ∈ Q, x is equal to:

A. n^2 B. $\sqrt[3]{n}$ C. n^3 D. $\sqrt{n}$

301. If the volume of a cube is 729 cm^3, then find the side of the cube.

A. 81cm B. 9cm C. 27cm D. 17cm

302. The simplified form of the expression $3\sqrt{98} - 4\sqrt{72} + \sqrt{32}$.

A. $4\sqrt{2}$ B. $41\sqrt{2}$ C. $49\sqrt{2}$ D. $\sqrt{2}$

303. Find the side length of a square if the area of the square is $1\frac{9}{16}$?

A. $1\frac{1}{4}$ B. $1\frac{3}{4}$ C. $1\frac{1}{5}$ D. $1\frac{1}{3}$

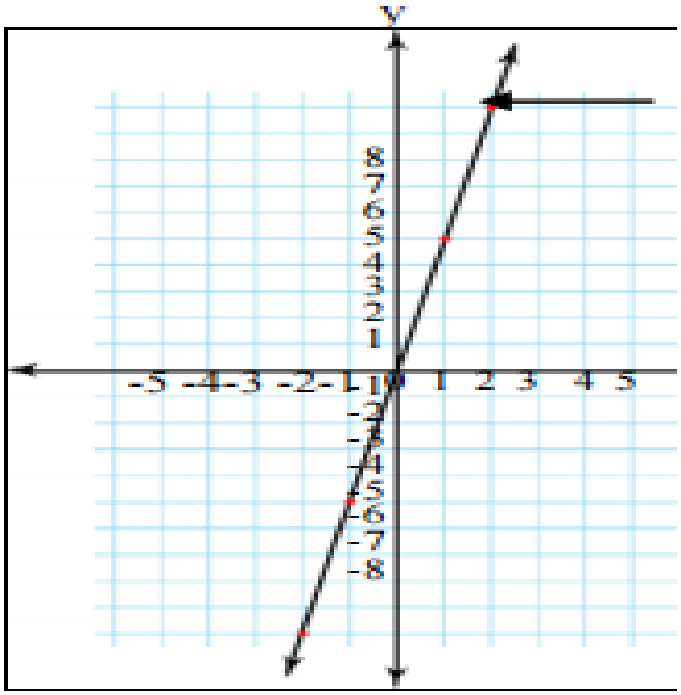
304. Which one of the following numbers is cannot be unit digits of a perfect square?

A. 1 B. 4 C. 8 D. 9

305. Which of the following coordinates is found in the second quadrant?

A. (2,4) B. (-2,4) C. (2,-4) D. (-2,-4)

306. Consider the graph below



What is the equation of the above graph?

A. y = 5 B. y = 5x C. y = -5x D. x = 5

307. Which one of the following line is a vertical line?

A. x = 5 B. y = 3 C. x+2y = 12 D. x – y = 0

308. Which one of the following point DO NOT lie on the line x + 2y = 10?

A. (2,4) B. (0,5) C. (1,10) D. (10,0)

309. Which one of the following line passes through the origin?

A. x + 2y = 4 B. x + y = 4 C. y = 6x D. x + 2y = 1

310. Which one of the following line passes through I and III quadrant and crosses the negative y-axis.

A. y=x B. y-3x = 7 C. 4x – 2y + 6 = 0 D. x = 4

311. If (0,b) lies on the line x+2y = 4, then what is the value of b?

A. 6 B. 5 C. 4 D. 2

312. Which pair of linear inequalities are equivalent?

A. 2x + 3 < 0 & x < 3 C. 3x + 4 < 12 & x + 4 < 12

B. x+ 3 >12 & 2x + 3 > 9 D. 3x + 4 < 6 & 6x < 436.

313. What is the solution set of 2x + 5 < 2 (2x + 3) + 7 in the set of rational numbers?

A. x > -4, x C. x > 4, x

B. x < - 4, x D. x < 4 x

314. Which of the following inequality HAS NO solution in the set of natural numbers?

A. 2(x + 4) < 2x + 8 C. 4(2+x) > 3x – 4

B. x > 4 D. 2x + 12 > 21

315. Abebe has 450,000 Birr and planned to buy a computer for his office. The computer he planned to buy costs 20,180 Birr each including tax and delivery. What is the maximum number of computers can he buy for his office?

A. 43 B. 34 C. 32 D.22

316. Three years ago a father is 20 years older than his son, in 10 years' time the father is twice older than his son. What is the age of the son now?

A. 10 years B. 12 years C. 30 years D. 36 years

317. Alemayehu can paint a whole house in 9 days and Eprem can paint the same house in 18 days. In how many days can they paint the house if they paint it together?

A. 4.5 days B. 5.4 days C. 6 days D. 2 days

318. In the xy coordinate plane, which of the following point in the third quadrant?

A. (-5 , -2) B. (4 , 3) C. (2 , -5) D. (-4 , 7)

319. Which the following equation represents a vertical line?

A. 2x – 5 = 7 B. y = -4x C. 4y + 3 = 11 D. 4x + 10y = 20

320. In which quadrant does point (x,0) is not not located for x < 0 ?

A. I and III B. II C. III D. IV

321. In the xy coordinate plane, which of the following is a point in the 3rd quadrant?

A. (-5 , -2) B. (4 , -3) C. (2 , 5) D. (0 , 0)

322. Which of the following equation is parallel to x axis?

A. y = -5 B. y = 2x + 2 C. x = 15 D. y – x = 0

323. In the Cartesian coordinate plane the point (x < 0 , Y > 0) located in the quadrant.

A. First B. Fourth C. Third D. Second

324. Which one of the following equation passes through the origin?

A. y = 4 B. x + 5 = 4 C. y = 2x D. y = x + 2

325. When of the following is equal to $(3\frac{3}{4} \times \frac{8}{5}) \div (\frac{-6}{5})$

A. 5 B. -6 C. 4 D. -2

326. Which one of the following is not linear Inequality?

A. $3x^2 + 1 - x < 0$ C. $4x - 12 \geq 20$

B. $2x(2 + x) \neq 2x(x +)$ D. $2x - 12 \leq 12x + 32$

327. The solution set of the equation -3 (x – 5) = 15 – 3x.

A. { } B. { Q } C. { 0 } D. { 15 }

328. Two third of a group of people are men, if the number of women is 200 more than the men, find the total number of people.

A. 450 B. 600 C. 650 D.533

329. Ten years from now kidus age will be six times his present age. What is his present age?

A. 2 years B. 12 year C. 5 years D. 10 years

330. If $\frac{x-2}{10}$+ x = $\frac{x}{3}$, then what is the value of 23x+4?

A. 10 B.12 C. $^{15}/_{23}$ D. $^{6}/_{23}$

331. The solution y ≥ 2 belongs to which inequality?

A . y+15≤ 2-8y B. y-16≤ 2-8y C. y-16≤ 2+8y D. y+16≤ 2+8y

332. A maximum of 500 tourists went on road trip. 8 buses were filled and the remaining 9 tourists went in a car, express the following situation as an inequality. (Represent the number of buses by x).

A. 8x

333. The line 5x = 20-by contains the coordinate point (2,1). What is the value of b?

A. 10 B.5 C. 3.5 D. 7.5

334. Which of the following equation represents a vertical line?

A. 2x-5=7 C. 4y+3=11

B. y=-4x D. 5x+10y-20=0

335. Which of the following pair of equation is not equivalent?

A. $\frac{2}{3}x - \frac{1}{5}$ - $=\frac{4}{5}$ and x = $\frac{5}{2}$

B. 2x+ 4 = 8 and 2x= 4

C. 3x + (-4) = 14 and 3x = 18

D. 4(2x – 1) = 3 (x – 1) and 5x = 1

336. What is the solution set of 2 – x = 2(– $\frac{x}{2}$ + **1**)

A.∅ B. all Q C. 2 D. 4

337. A farmer has sheep and hen. The sheep and the hens together have 150 heads and 400 legs. How many sheep and hens does a farmer have respectively?

A. 100 and 50 C. 150 and 40 B. 50 and 100 D. 400 and 150

338. Which one of the following is true?

A. A line parallel to the y-axis is horizontal

B. A line perpendicular to the x-axis is vertical

C. A line parallel to the x-axis is vertical

D. A line perpendicular to the y-axis is vertical

339. Which of the following is not true?

A. If a <b , then a+c < b + c

B. If a < b , then a – c < b – c

C. If a < b , and c < 0 then bc < ac

D. If a < b , and c < 0 then

340. genet buys 20kg of sugar at Birr P per kilogram, She sells 16kgs at Birr (P + 3/4) per kilogram and the rest at Birr (P+1) per kilogram. What is her profit?

20 birr B. 16birr C. P + 3/4 birr D. 12birr

341. What is the solution set of the inequality 24x – 3 < 4x + 10 , Where x belongs to the set of whole number.

A. $\{x:x \leq \frac{13}{20}\}$ B. $\{x:x <\frac{13}{20}\}$ C. { } D. { 0 }

342. What is the equation of line passing through the origin and (- 1 , 2)?

A. Y – 2 x = 0 B. y + 2x = 0 C. 2y – x = 0 D. 2x + x =1

343. If the points P(6 , 0) and Q(2 , 4) lie on the graph of ax +by = 18 . Which of the following is the value of A and B respectively?

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

344. Which of the following the solutions set of $\frac{1}{3}(x+7)-\frac{1}{2}(x+1)=4$: for the set of natural number?

A.$\{13\}$ B. $\{-13\}$ C. $\{26\}$ D. { }

345. The sum of the ages of a man and his wife is 96years. The man is 12 years older than his wife. Find the present ages of the man.

B. 96 B. 42 C. 108 D. 54

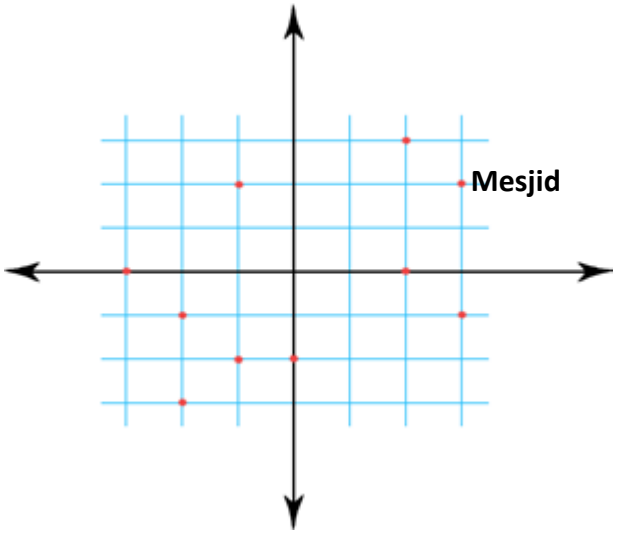
346. Eight less than three times a number is greater than fifteen. Which in equality is correct?
A. $\boldsymbol{2x-8<15}$ B. $\boldsymbol{3x-8>15}$ C. $\boldsymbol{8-3x>15}$ D. 8-3x < 15

347. Which one of the following equation is NOT equivalent to the equation 10-3$(\boldsymbol{5x+2})=\boldsymbol{-11}$?
A. $\boldsymbol{-2x+3=5}$ B. $\boldsymbol{x-1=0}$ C. $\boldsymbol{3x+1=4}$ D. $\boldsymbol{6x-12=-6}$

348. Which one of the following linear in equality is equivalent to $\boldsymbol{-3x+8>-2x+10}$?
A. X <-2 B. 3x < 3 C. 2x < 4 D. x > 2

349. If Birr 1000 is invested at 6%simple interest and then what is the amout of after 5 years?
A. 1000 Birr B. 300 Birr C. 1300 Birr D. 900Birr

350. Consider the Cartesian coordinate system given below



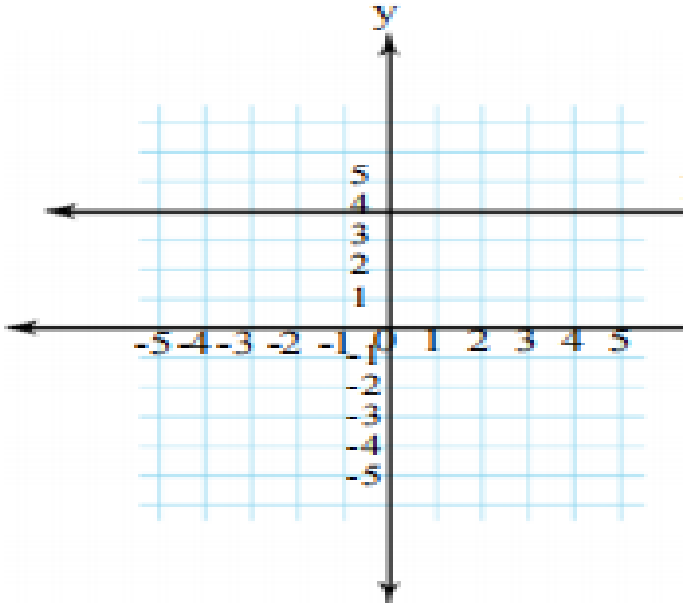
What is the coordinate location of the mesjid?
A. (3,3) B. (2,3) C.(3,2) D. (-3,2)

351. Which one of the following ordered pair is found in the 4th quadrant?
A. $\boldsymbol{(2,-4)}$ B. $\boldsymbol{(0,4)}$ C. $\boldsymbol{(-4,6)}$ D. $\boldsymbol{(2,5)}$

352. Which one of the following equation has undefined slope?
A. $\boldsymbol{2y-6=1}$ B. $\boldsymbol{x-6=2y}$ C. $\boldsymbol{x-6=3x}$ D. 2y-3x =12

353. If point $\boldsymbol{(-2,1)}$ lies on the line $\boldsymbol{ax+3y=4}$. What is the values of A.
A. -3 B. $\frac{-1}{2}$ C. $\frac{-5}{2}$ D. $\frac{-7}{2}$

354. What is the equation of the line graphed below in the figure?



A. y – 4 = 0
B. y = 4x
C. x=4
D. y-2=0

355. Faruq is 20 years younger than his father, after how many years does the age of his father will doubles Faruqs age?
356. Ten years ago, a father was three times as old as his son. If the father is 24 years older than his son, how old is the father now?
357. Which one of the following lines always passes through the origin?
A. y = b B. x = a C. y = mx D.Y = mx + b
358. If the point (5,b), (4,b), (a,b) and (6, b) passes through the line y + 20 = 0, then what is the value of b
A. -4 B. 4 C. 20 D. -20
359. Which one of the following is correct about the graph of 2x + 4y = 0?
A. It is a vertical line.
B. It is a horizontal line.
C. Its slope is 2.
D. It passes through quadrant II and IV.
360. Suppose that Reyan is taking a ride for a visit to your home. If the ride service charges Birr 100 to pick Reyan up from his house and Birr 7 per

km, what is the distance from Reyan's house to your home if he paid a total cost of Birr 450?

A. 100km B. 50km C. 25km D. 35km

361. If the sum of three consecutive odd integer is 123, what is the largest of these numbers?

A. 21 B. 29 C. 43 D. 39

362. Which of the following is true about the graph of $y + 2x = 3$

A. The graph lies through the 1st and 3red quadrant

B.The graph crosses the y-axis at (0,3)

C.The slope of the line is positive

D. The graph passes through the origin

363. Point (a,a) lies on the graph of the equation 3y = 2x − 4. Find the value of a.

364. If the graph of the equation y = $\frac{8}{3}$x contains the point (6,b),then what is the value of b?

A. 8 B. 16 C. 34 D. -16

365. The slope and y-intercept of the graph of the equation y+7x=2

A. Slope: -7, y intercept: -2 C. slope: $\frac{1}{2}, y\ intercept: -7$

B. Slope: $\frac{1}{7}$, y intercept: 2 D. Slope:2, y intercept: -7

366. If x is a natural number, then what is the solution set of the inequality 0.2x - ≤ 0.1x?

A. (0,1,2} B. {1,2} C. φ D. Infinite solution

367. What is the solution set of x - $2 \geq -3 + x$, x∈ Q?

A. (0,5} B. {0} C. φ D. Infinite solutions

368. What is the solutions et of the in equality $\frac{1}{2}(2x + 3) > 3x - \frac{5}{2}$, if the domain is the set of positive integer

A. $\{2, 3, 4 \ldots\}$ B. $\{0, 1\}$ C. $\{1\}$ D. $\{x: x > 2\}$

Sumeya Schools 2016/2024 Mathematics Worksheet for national examination for grade 8 learners.