

TEST NAME: **8th Grade NS.2**
TEST ID: **775857**
GRADE: **08 - Eighth Grade**
SUBJECT: **Mathematics**
TEST CATEGORY: **School Assessment**

Student: _____

Class: _____

Date: _____

1. The value of $\sqrt{29}$ falls between which two numbers?

- A. 3 and 4
- B. 5 and 6
- C. 14 and 15
- D. 29 and 30

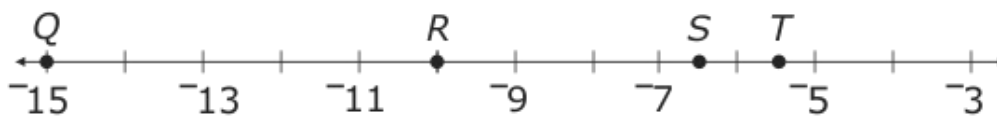
2. A square room has an area of 150 square feet. Which of the following numbers is closest to the length of a side of the room?

- A. $12\frac{1}{5}$ feet
- B. $12\frac{1}{4}$ feet
- C. $12\frac{3}{10}$ feet
- D. $12\frac{1}{2}$ feet

3. The height of a triangle is given as $\sqrt{45}$. Between which two integers is the height of the triangle?

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

4. Which letter is located at **about** $\sqrt{30}$ on the number line below?



- A. Q
- B. R
- C. S
- D. T

5. Which number is located between 19 and 20 on a number line?

A. $\sqrt{298}$

B. $\sqrt{340}$

C. $\sqrt{391}$

D. $\sqrt{402}$

6. Between which 2 numbers is $\sqrt{2}$?

A. 1.0 and 1.5

B. 1.5 and 2

C. 2 and 2.5

D. 2.5 and 3

7. The value of $\sqrt{35}$ is between what two numbers?

A. 5 and 6

B. 17 and 18

C. 20 and 21

D. 34 and 36

8. The value of $\sqrt{23}$ is between which two integers?

A. 4 and 5

B. 5 and 6

C. 11 and 12

D. 22 and 23

9. Which number has a cube root between 7 and 8?

A. 57

B. 153

C. 244

D. 499

10. Which list shows values in order from least to greatest?

- A. $\sqrt{30}, \frac{49}{16}, \frac{80}{19}$
- B. $\sqrt{30}, \frac{80}{19}, \frac{49}{16}$
- C. $\frac{80}{19}, \sqrt{30}, \frac{49}{16}$
- D. $\frac{49}{16}, \frac{80}{19}, \sqrt{25}$

11. The value of $\sqrt{345}$ is between which two numbers?

- A. 13 and 15
- B. 15 and 17
- C. 17 and 19
- D. 19 and 21

12. Which value is closest to $\sqrt{\frac{1}{150}}$?

- A. 8.2×10^{-2}
- B. 7.5×10^{-2}
- C. 1.5×10^{-2}
- D. 1.2×10^{-2}

13. Which number below is greater than 9 but less than 10?

- A. $\sqrt{45}$
- B. $\sqrt{80}$
- C. $\sqrt{85}$
- D. $\sqrt{100}$

14. Sam made a square sign with an area of 410 square inches. What is the **approximate** perimeter of the square sign?

- A. 40 inches
- B. 80 inches
- C. 100 inches
- D. 200 inches

15. Which list of numbers is ordered from least to greatest?

- A. $-\sqrt{10}, -\sqrt{8}, -\sqrt{6}$
- B. $-\sqrt{6}, -\sqrt{8}, -\sqrt{10}$
- C. $-\sqrt{10}, -\sqrt{6}, -\sqrt{8}$

16. Which value below is the greatest?

- A. $\sqrt{10}$
- B. $\frac{8}{3}$
- C. $\sqrt{3}$
- D. $\frac{11}{12}$

17. Which sequence places the numbers $\sqrt{3.5}$, $\sqrt{4}$ and $\sqrt{\pi}$ in order from least to greatest?

- A. $\sqrt{4}, \sqrt{3.5}, \sqrt{\pi}$
- B. $\sqrt{\pi}, \sqrt{4}, \sqrt{3.5}$
- C. $\sqrt{\pi}, \sqrt{3.5}, \sqrt{4}$
- D. $\sqrt{3.5}, \sqrt{\pi}, \sqrt{4}$

18. The value of $\sqrt{21}$ is between which two integers?

- A. 4 and 5
- B. 5 and 6
- C. 10 and 11
- D. 20 and 21

19. The value of $\sqrt{31}$ is between which two integers?

- A. 5 and 6
- B. 7 and 8
- C. 15 and 16
- D. 30 and 31

20. Which number below is greater than 3 but less than 6?

A. $\sqrt{50}$

B. $\sqrt{8}$

C. $\sqrt{15}$

D. $\sqrt{5}$

21. Between which two numbers is $\sqrt{161}$ located?

A. 12.0 and 12.2

B. 12.3 and 12.5

C. 12.6 and 12.8

D. 12.9 and 13.1

22. Which **best** describes the value of $\sqrt{0.72}$?

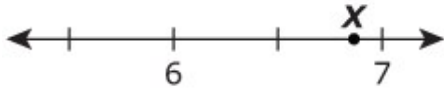
A. between 0.008 and 0.009

B. between 0.08 and 0.09

C. between 0.8 and 0.9

D. between 8 and 9

23. Use the number line to answer the question.



Which number best approximates the value of X ?

A. $\sqrt{6}$

B. $\sqrt{7}$

C. $\sqrt{46}$

D. $\sqrt{52}$

24. The value of $\sqrt{33}$ is between what two numbers?

- A. between 3 and 4
- B. between 5 and 6
- C. between 16 and 17
- D. between 32 and 34

25. Between which two numbers does $\sqrt{5}$ lie?

- A. 2.1 and 2.2
- B. 2.2 and 2.3
- C. 2.3 and 2.4
- D. 2.4 and 2.5

26. The value of $\sqrt{31}$ is between what two numbers?

- A. between 3 and 4
- B. between 5 and 6
- C. between 15 and 16
- D. between 30 and 32

27. What is the **approximate** value of $\sqrt{10} + \sqrt{34}$?
- A. 22
 - B. 11
 - C. 9
28. The square root of 216 lies between which two integers?
- A. 12 and 13
 - B. 13 and 14
 - C. 14 and 15
 - D. 15 and 16
29. The cube root of 7201 is between which pair of integers?
- A. 19 and 20
 - B. 24 and 25
 - C. 36 and 37
 - D. 84 and 85
30. If $8 < \sqrt[3]{a} < 9$, which of the following could be the value of a ?
- A. 221
 - B. 309
 - C. 679
 - D. 801
31. Which number is closest to $3.1\sqrt{80}$?
- A. 24.8
 - B. 27.7
 - C. 124
 - D. 248
32. Which number below is greater than 2 but less than 5?
- A. $\sqrt{2}$
 - B. $\sqrt{5}$
 - C. $\sqrt{26}$
 - D. $\sqrt{40}$

33. Which of the following is closest to the value of $\sqrt{11}$?

- A. 3.0
- B. 3.2
- C. 3.3
- D. 3.4

34. What is the **approximate** value of $\sqrt{99}$?

- A. 10
- B. 25
- C. 50

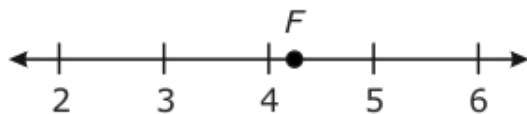
35. The square root of 56 is between which two numbers?

- A. 7 and 8
- B. 8 and 9
- C. 49 and 64
- D. 50 and 60

36. A square table has an area of 60 square feet. Between which two consecutive integers is the length of the table?

- A. 6 feet and 7 feet
- B. 7 feet and 8 feet
- C. 8 feet and 9 feet
- D. 9 feet and 10 feet

37. Which number is located at **approximately** point F on the number line below?

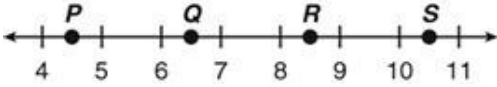


- A. $\sqrt{8}$
- B. $\sqrt{12}$
- C. $\sqrt{18}$

38. The value of $\sqrt{45}$ is between what two numbers?

- A. between 3 and 4
- B. between 6 and 7
- C. between 22 and 23
- D. between 44 and 46

39. Which point on the number line represents $\sqrt{42}$?



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

40. The value of $\sqrt{150}$ is between which two integers?

- A. 11 and 12
- B. 12 and 13
- C. 13 and 14
- D. 14 and 15

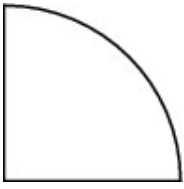
41. Given that the square root of 225 is 15 and the square root of 256 is 16, which number is closest to the square root of 240?

- A. 15.1
- B. 15.5
- C. 15.8
- D. 15.9

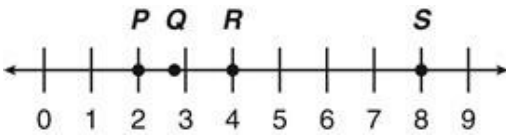
42. Which is more than 0.50 but less than 0.70?

- A. $\sqrt{0.24}$
- B. $\sqrt{0.40}$
- C. $\sqrt{0.54}$
- D. $\sqrt{1.20}$

43. The perimeter of the sector below is $(24 + 6\pi)$ centimeters. Which measurement is the **best** approximation of the perimeter of this sector?

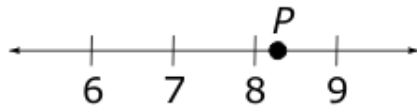


- A. 30 cm
B. 41 cm
C. 43 cm
D. 60 cm
44. Which point most closely corresponds to $\sqrt{8}$ on the number line below?



- A. *P*
B. *Q*
C. *R*
D. *S*
45. Between which two integers does $\sqrt{115}$ lie?
- A. 10 and 11
B. 14 and 16
C. 100 and 121
D. 114 and 116

46. Which number is located at **approximately** point P on the number line below?



- A. $\sqrt{56}$
- B. $\sqrt{64}$
- C. $\sqrt{70}$
- D. $\sqrt{80}$
47. Which fraction below is nearest in value to π ?
- A. $\frac{7}{22}$
- B. $\frac{1}{7}$
- C. $\frac{22}{7}$
- D. $\frac{7}{2}$
48. The value of $\sqrt{51}$ is between which two numbers?
- A. between 50 and 52
- B. between 25 and 26
- C. between 7 and 8
- D. between 3 and 4

49. Which is more than 8 but less than 10?

- A. $\sqrt{100}$
- B. $\sqrt{85}$
- C. $\sqrt{63}$
- D. $\sqrt{19}$

50. Which value is closest to $3\sqrt{5} + 4$?

- A. 9
- B. 10.6
- C. 11.5
- D. 19

51. The square root of 198 is between which two numbers?

- A. 12 and 13
- B. 13 and 14
- C. 14 and 15
- D. 15 and 16

52. When looking out over a large body of water, an observer can calculate the distance to the horizon by using the formula, $d = \sqrt{1.5h}$, where d is the distance to the horizon (in miles), and h is the height above sea level of the observer's eye (in feet). The height of the observer's eye is 9 feet above sea level. Between which two values is the distance to the horizon?

- A. between 0 and 1 miles
- B. between 3 and 4 miles
- C. between 6 and 7 miles
- D. between 13 and 14 miles

53. Which of the following numbers is closest to $\sqrt{90}$?

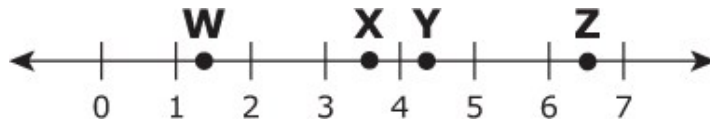
- A. 45
- B. 30
- C. 12
- D. 10

54. Which list below is ordered from least to greatest?

- A. $\sqrt{38}$, $\sqrt{91}$, 5, 10
- B. $\sqrt{38}$, 5, 10, $\sqrt{91}$
- C. 5, 10, $\sqrt{38}$, $\sqrt{91}$
- D. 5, $\sqrt{38}$, $\sqrt{91}$, 10

55. The value of $\sqrt{73}$ is between which integers?
- A. 8 and 9
 - B. 18 and 19
 - C. 36 and 37
 - D. 72 and 74
56. The value of $\sqrt{27}$ is between which two consecutive integers?
- A. 27 and 28
 - B. 13 and 14
 - C. 5 and 6
 - D. 2 and 3
57. The value of $\sqrt{35}$ is between which two integers?
- A. 5 and 6
 - B. 8 and 9
 - C. 17 and 18
 - D. 34 and 35
58. A circular fence has a circumference of 42π feet. Which number is closest to the circumference of the fence?
- A. 126 feet
 - B. 132 feet
 - C. 134 feet
 - D. 143 feet
59. The value of $\sqrt{71}$ is between what two numbers?
- A. between 4 and 5
 - B. between 8 and 9
 - C. between 35 and 36
 - D. between 70 and 72
60. Order the following from least to greatest: $\frac{7}{3}$, $\sqrt{2}$, $\frac{7}{9}$.
- A. $\sqrt{2}$, $\frac{7}{5}$, $\frac{7}{9}$
 - B. $\sqrt{2}$, $\frac{7}{9}$, $\frac{7}{5}$
 - C. $\frac{7}{9}$, $\sqrt{2}$, $\frac{7}{5}$
 - D. $\frac{7}{9}$, $\frac{7}{5}$, $\sqrt{2}$

61. Four points are plotted on a number line.



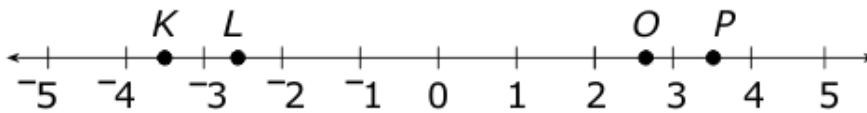
Which point is the **best** representation of $\sqrt{13}$?

- A. W
- B. X
- C. Y
- D. Z

62. The value of $\sqrt{154}$ is located between which two consecutive whole numbers?

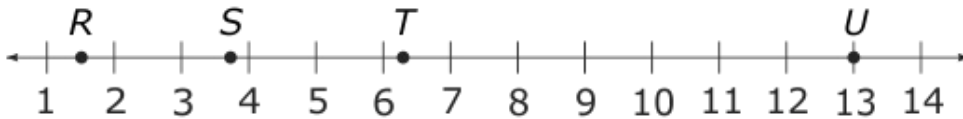
- A. 77 and 78
- B. 38 and 39
- C. 15 and 16
- D. 12 and 13

63. On the number line below, which point is located at **approximately** $-\sqrt{7}$?



- A. K
- B. L
- C. O
- D. P

64. Which letter is located at **approximately** $\sqrt{13}$ on the number line below?



- A. *R*
- B. *S*
- C. *T*
- D. *U*

65. What is the **approximate** value of $\sqrt{63} + \sqrt{37}$?

- A. 10
- B. 14
- C. 49

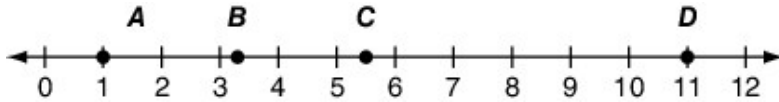
66. Which of these statements is true?

- A. $\sqrt{11}$ and $\sqrt{14}$ are both between 3 and 4
- B. $\sqrt{11}$ and $\sqrt{14}$ are both between 3 and 3.5
- C. $\sqrt{11}$ and $\sqrt{14}$ are both between 3.5 and 4
- D. $\sqrt{11}$ and $\sqrt{14}$ are both between 10 and 15

67. **Between which two whole numbers does** $\sqrt{57}$ **lie?**

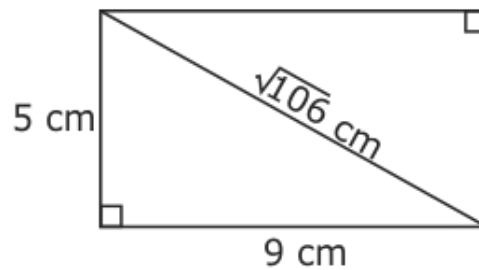
- A. 58 and 56
- B. 29 and 28
- C. 8 and 7
- D. 8 and 6

68. Which point on the number line **best** represents the value of $\sqrt{11}$?



- A. Point A
- B. Point B
- C. Point C
- D. Point D

69. What is the **approximate** length of the diagonal of the rectangle below?



- A. 10 cm
- B. 11 cm
- C. 14 cm
- D. 53 cm

70. Which of the following shows the numbers arranged from least to greatest?

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

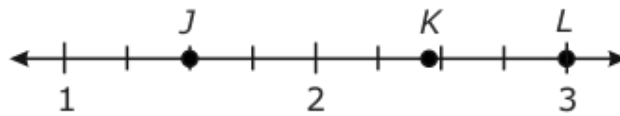
71. Which is closest to $\sqrt{0.0122}$?

- A. 0.0035
- B. 0.0605
- C. 0.11
- D. 0.3025

72. The value of $\sqrt{27}$ is between which two integers?

- A. 5 and 6
- B. 6 and 7
- C. 13 and 14
- D. 26 and 27

73. Which point is located at **approximately** $\sqrt{6}$ on the number line below?



- A. Point *J*
- B. Point *K*
- C. Point *L*

74. Mandy knows the square root of 36 is 6 and the square root of 49 is 7. Using this information, which number is closest to the square root of 40?

- A. 6.1
- B. 6.3
- C. 6.8
- D. 6.9

75. Which shows the numbers in order from least to greatest?

- A. $\frac{22}{7}$, 200%, $\frac{5}{3}$, $\sqrt{2}$
- B. $\frac{5}{3}$, 200%, $\frac{22}{7}$, $\sqrt{2}$
- C. $\sqrt{2}$, $\frac{5}{3}$, $\frac{22}{7}$, 200%
- D. $\sqrt{2}$, $\frac{5}{3}$, 200%, $\frac{22}{7}$

76. A furniture maker sells tabletops that are equilateral triangles. The altitude of each triangular model is listed in the table.

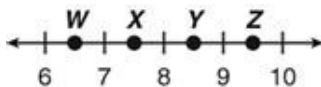
Equilateral-triangular Tabletops

Model	Altitude (in.)
M	$11\sqrt{6}$
N	$15\sqrt{3}$
P	$18\sqrt{2}$
Q	$12\sqrt{5}$

Which model tabletop has the greatest area?

- A. M
B. N
C. P
D. Q
77. Which statement is **true**?
- A. $\sqrt{6}$ is less than or equal to 2.4.
B. $\sqrt{8}$ is greater than or equal to 2.9.
C. $\sqrt{6}$ is greater than 2.4 and less than 2.5.
D. $\sqrt{8}$ is less than 2.8 and greater than 2.5.
78. A cube has a volume of 800 cubic units. The length of the edge of this cube is between which two numbers?
- A. 9 and 10 units
B. 11 and 12 units
C. 20 and 21 units
D. 28 and 29 units

79. Which point on the number line most closely represents $\sqrt{72}$?



- A. W
B. X
C. Y
D. Z

80. Which inequality is true?

- A. $2\sqrt{10} > 3\sqrt{5}$
- B. $3\sqrt{20} > 4\sqrt{10}$
- C. $4\sqrt{40} < 5\sqrt{20}$
- D. $5\sqrt{80} < 6\sqrt{40}$

81. Between which two integers does $\sqrt{55}$ lie?

- A. 11 and 12
- B. 9 and 10
- C. 7 and 8
- D. 5 and 6

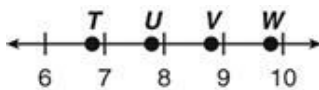
82. Between which two whole numbers do both the irrational numbers $\sqrt{54}$ and $\sqrt{60}$ lie?

- A. 54 and 60
- B. 49 and 64
- C. 27 and 30
- D. 7 and 8

83. How much greater is $\sqrt{47}$ than $\sqrt{37}$?

- A. Exactly 1
- B. Exactly 10
- C. A little less than 1
- D. A little more than 3

84. Which point on this number line most closely represents $\sqrt{95}$?



- A. T
- B. U
- C. V
- D. W

85. What is the order of the following numbers from least to greatest?

$$\sqrt{8}, \frac{77}{20}, \frac{39}{25}$$

- A. $\sqrt{8}, \frac{39}{25}, \frac{77}{20}$
- B. $\frac{39}{25}, \sqrt{8}, \frac{77}{20}$
- C. $\frac{77}{20}, \frac{39}{25}, \sqrt{8}$
- D. $\frac{77}{20}, \sqrt{8}, \frac{39}{25}$

86. Inez was chosen by her teacher to find the integer that has a square root closest to 3 without going over and write it on the board. Which correct answer did Inez write on the board?

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

87. The number $\sqrt{19}$ is between which two integers?

- A. 4 and 5
- B. 6 and 7
- C. 9 and 10
- D. 18 and 20

88. The value of $\sqrt{19}$ is between what two numbers?

- A. 2 and 3
- B. 4 and 5
- C. 9 and 10
- D. 18 and 20

89. Which number is greater than 5 but less than 7?

- A. $\sqrt{25}$
- B. $\sqrt{40}$
- C. $\sqrt{50}$

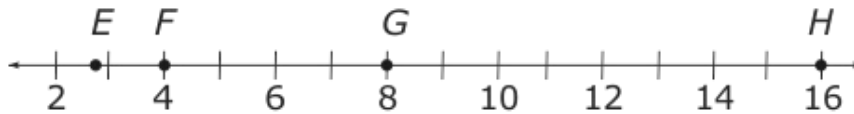
90. The value of $\sqrt{15}$ is between which two consecutive integers?

- A. 3 and 4
- B. 7 and 8
- C. 14 and 16

91. The value of $\sqrt{37}$ is between which two numbers?

- A. between 36 and 38
- B. between 18 and 19
- C. between 6 and 7
- D. between 3 and 4

92. Which letter is located at *approximately* $\sqrt{8}$ on the number line below?



- A. *E*
- B. *F*
- C. *G*
- D. *H*

93. Which statement is true?

- A. $2.5 < \sqrt{12} < 3$
- B. $3 < \sqrt{12} < 3.5$
- C. $3.5 < \sqrt{12} < 4$
- D. $4 < \sqrt{12} < 4.5$

94. Which integers, when placed in the boxes shown below, make the inequality **true**?

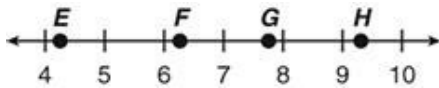
$$\square < -\sqrt{60} < \square$$

- A. 7 and 8
- B. 6 and 7
- C. -7 and -6
- D. -8 and -7

95. Which list of numbers is ordered from least to greatest?

- A. $-8, -\sqrt{65}, -8.5$
- B. $-8.5, -\sqrt{65}, -8$
- C. $-\sqrt{65}, -8.5, -8$

96. Which point on the number line represents $\sqrt{18}$?



- A. E
- B. F
- C. G
- D. H

97. Which list below shows numbers in order from least to greatest?

- A. $\sqrt{8}, \frac{9}{3}, 2.4, \sqrt{7}$
- B. $2.4, \sqrt{7}, \frac{9}{3}, \sqrt{8}$
- C. $2.4, \sqrt{7}, \sqrt{8}, \frac{9}{3}$
- D. $\sqrt{8}, \sqrt{7}, \frac{9}{3}, 2.4$

98. The distance, d , that can be seen from the top of a building can be found using the equation $d = 1.5\sqrt{h}$, where h is the height of the building. If John is on top of a building that is 140 feet high, what is the **approximate** distance that John can see from the top of that building?

- A. 12 feet
- B. 18 feet
- C. 70 feet
- D. 105 feet

99. Which is closest to the value of the expression $\sqrt{5} \cdot 3\sqrt{50}$?

- A. 24
- B. 42
- C. 188
- D. 375

100. A square has an area of 29 square inches. Which choice below is the best estimate for the side length of the square?

- A. More than 5 inches but less than 6 inches.
- B. More than 7 inches but less than 8 inches.
- C. More than 14 inches but less than 15 inches.
- D. More than 25 inches but less than 36 inches.

101. Which value is closest to $\sqrt[3]{100}$?

- A. 3.0
- B. 4.5
- C. 10.0
- D. 33.5

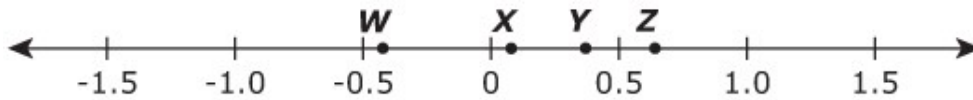
102. On a number line, the square root of 50 is located between which two integers?

- A. between 5 and 6
- B. between 7 and 8
- C. between 25 and 26
- D. between 50 and 51

103. A student wrote the inequality $\sqrt{x} > 2.5$. Which integer represents the smallest value of x that would make the inequality true?

- A. 4
- B. 5
- C. 6
- D. 7

104. Which equation is true using the points on this number line?



- A. $\sqrt{Y} = W$
- B. $\sqrt{Y} = X$
- C. $\sqrt{Y} = Z$
- D. $\sqrt{Y} = 0$

105. Between which two points is the $\sqrt{80}$ located on the graph below?

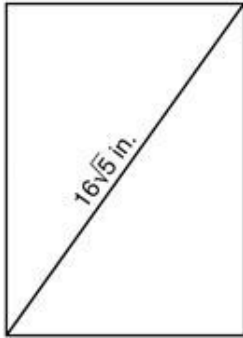


- A. P and Q
- B. Q and R
- C. R and S

106. The value of $\sqrt{38}$ is between which two numbers?

- A. 5 and 6
- B. 6 and 7
- C. 18 and 19
- D. 19 and 20

107. Taylor is making five posters for the school play. She glues a thin piece of ribbon along the diagonal of each poster. She calculates the diagonal of one poster to be $16\sqrt{5}$ inches long.



Which of the following is closest to the total number of inches of ribbon Taylor needs for all five posters?

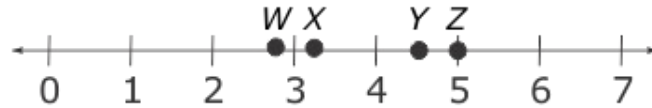
- A. 80 inches
 - B. 85 inches
 - C. 105 inches
 - D. 179 inches
108. Which is closest to the value of $\frac{2}{\sqrt{398}}$?

- A. 0.1
- B. 0.05
- C. 20
- D. 40

109. The value of 3 times the square root of 8 is between which two consecutive integers?

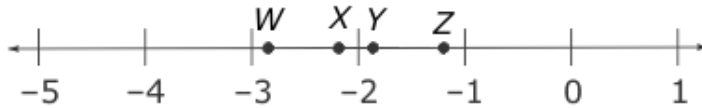
- A. 6 and 7
- B. 7 and 8
- C. 8 and 9
- D. 9 and 10

110. Which point is located at **approximately** $\sqrt{10}$ on the number line below?



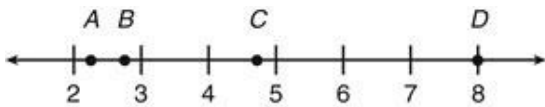
- A. W
B. X
C. Y
D. Z
111. The square root of 144 is 12, because $12 \times 12 = 144$. The square root of 169 is 13, because $13 \times 13 = 169$. Which expression will give the closest approximation to the square root of 156?
- A. $156 \div 2$
B. $13 - \left(\frac{169 - 144}{2}\right)$
C. $12 + \left(\frac{13 - 12}{2}\right)$
D. $144 + \left(\frac{169 - 144}{2}\right)$
112. What is the **approximate** value of $\sqrt{24} + \sqrt{48}$?
- A. 8
B. 12
C. 18
D. 36
113. What is the greatest whole number value of n , for which \sqrt{n} lies between the same integer values as $\sqrt{40}$ lies?
- A. 36
B. 39
C. 48
D. 49

114. Which letter is located at **approximately** $-\sqrt{5}$?



- A. W
- B. X
- C. Y
- D. Z

115. $\sqrt[3]{24}$ is closest to which point on the number line?



- A. Point A
- B. Point B
- C. Point C
- D. Point D

116. Which number below is between 8 and 10?

- A. $\sqrt[3]{343}$
- B. $\sqrt[3]{1,100}$
- C. $\sqrt{38}$
- D. $\sqrt{77}$

117. The cube root of 67 is between which pair of integers?

- A. 3 and 4
- B. 4 and 5
- C. 6 and 7
- D. 8 and 9

118. A square tile has an area of 75 square inches. Which is the best estimate for the length of one side of the tile?

- A. between 6 and 8 inches
- B. between 8 and 10 inches
- C. between 37 and 50 inches
- D. between 64 and 81 inches

119. Which list below is ordered from least to greatest?

- A. $-\sqrt{38}$, -6 , $-\sqrt{7}$, $-\sqrt{42}$
- B. $-\sqrt{42}$, $-\sqrt{38}$, $-\sqrt{7}$, -6
- C. $-\sqrt{42}$, $-\sqrt{38}$, -6 , $-\sqrt{7}$
- D. $-\sqrt{7}$, $-\sqrt{42}$, $-\sqrt{38}$, -6

120. Which number is greater than 7 but less than 8?

- A. $\sqrt{55}$
- B. $\sqrt{35}$
- C. $\sqrt{15}$

121. Samantha and her father are building a boat. They need a board that measures $\sqrt{51}$ inches wide. **About** how wide is this board, and to which number set does it belong?

- A. 7 inches, irrational numbers
- B. 7 inches, rational numbers
- C. 8 inches, irrational numbers
- D. 8 inches, rational numbers

122. Which list of values is ordered from least to greatest?

- A. $\sqrt{13}$, $2.\bar{9}$, 4.5, 13
- B. $2.\bar{9}$, 4.5, 13, $\sqrt{13}$
- C. $2.\bar{9}$, 4.5, $\sqrt{13}$, 13
- D. $2.\bar{9}$, $\sqrt{13}$, 4.5, 13

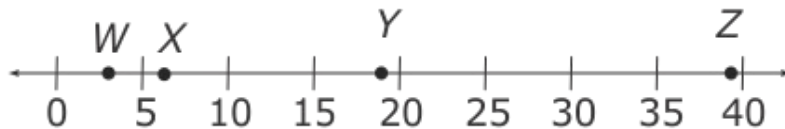
123. Which expression is closest to the sum of the square root of 62 and the square root of 95?

- A. $7 + 9$
- B. $7 + 10$
- C. $8 + 9$
- D. $8 + 10$

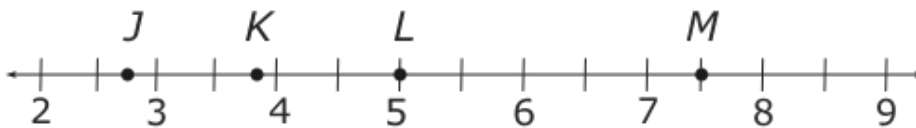
124. Malik is estimating the square root of 62 to the nearest tenth without using a calculator. Which line of reasoning would lead to the closest estimate?

- A. 62 is much closer to 64 than it is to 81, so the square root of 62 must be between 7 and 8. Since 62 is less than 64, the tenths digit must be less than 8. The closest estimate is 7.7.
- B. $7.9^2 = 62.41$. Since 7.9^2 is greater than 62, the tenths place digit must be 8. The closest estimate is 7.8.
- C. $7.85^2 = 61.6225$. Since 7.85^2 is less than 62, the closest estimate is 7.9.
- D. $7.9^2 = 62.41$. To estimate the square root, first round 7.9 to 8. $8^2 = 64$, which is very close to 62. The closest estimate rounded to the nearest tenths place is 8.0.

125. Which point is located at **approximately** $\sqrt{39}$ on the number line below?



- A. W
B. X
C. Y
D. Z
126. Which letter is located at **approximately** $\sqrt{15}$ on the number line below?



- A. J
B. K
C. L
D. M
127. The formula used to determine the speed of a car before the brakes are applied is $s = \sqrt{20d}$, where s equals the speed of the car in miles per hour, and d equals the braking distance. The braking distance for a car was 60 feet. What was the **approximate** speed of the car before the brakes were applied?
- A. 15 mph
B. 30 mph
C. 35 mph
D. 40 mph

128. The value of $\sqrt{50}$ is between which two numbers?

- A. 6.5 and 7
- B. 7 and 7.5
- C. 7.5 and 8

129. A teacher wrote the following statements comparing $\sqrt{6}$ and $\sqrt{7}$.

I. The value of $\sqrt{6}$ is between the whole numbers 5 and 7, whereas the value of $\sqrt{7}$ is between the whole numbers 6 and 8.

II. The value of $\sqrt{6}$ is between 2.43 and 2.45, whereas the value of $\sqrt{7}$ is between 2.63 and 2.65.

Which statement or statements are **correct**?

- A. I only
- B. II only
- C. both I and II
- D. neither I nor II

130. Which is closest to the value of $10\sqrt{63}$?

- A. 24
- B. 80
- C. 158
- D. 315

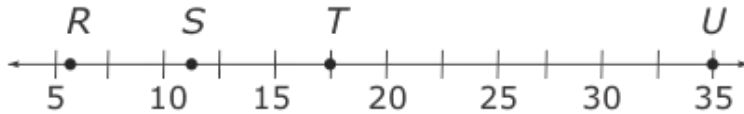
131. The value of $\sqrt[3]{3001}$ is between which pair of integers?

- A. 11 and 12
- B. 12 and 13
- C. 13 and 14
- D. 14 and 15

132. Which number is greater than 4 but less than 9?

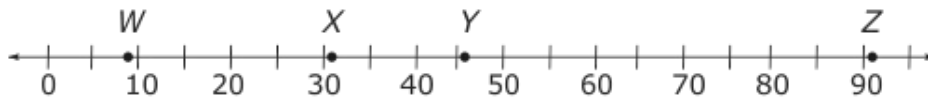
- A. $\sqrt{16}$
- B. $\sqrt{30}$
- C. $\sqrt{81}$
- D. $\sqrt{90}$

133. Which point is located at **approximately** $\sqrt{35}$?



- A. R
- B. S
- C. T
- D. U

134. Which point is located at **approximately** $\sqrt{92}$ on the number line below?

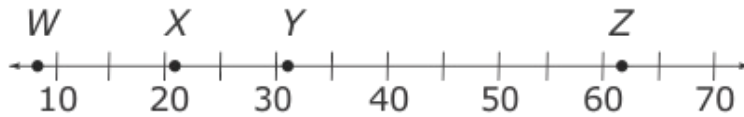


- A. W
- B. X
- C. Y
- D. Z

135. Which inequality is true?

- A. $\sqrt{195} > 14.1$
- B. $\sqrt{205} < 14.1$
- C. $\sqrt{208} < 14.1$
- D. $\sqrt{218} > 14.1$

136. Which point is located at **approximately** $\sqrt{62}$ on the number line below?

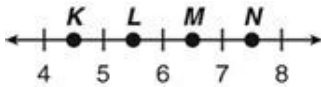


- A. W
- B. X
- C. Y
- D. Z

137. Which value is closest to $\sqrt{7}$?

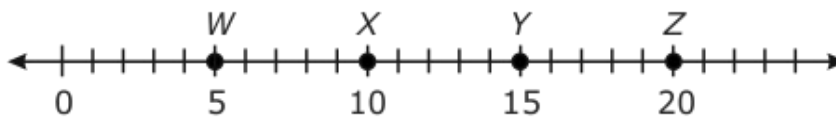
- A. 2.25
- B. 2.5
- C. 2.75
- D. 3.5

138. Which point on the number line most closely represents $\sqrt{30}$?



- A. K
- B. L
- C. M
- D. N

139. Between which two points is $\sqrt{95}$ located on the number line below?



- A. W and X
- B. X and Y
- C. Y and Z

140. The value of $\sqrt{21}$ is between which two numbers?

- A. between 20 and 22
- B. between 10 and 11
- C. between 4 and 5
- D. between 2 and 3

141. Which statement about the location of $\sqrt{7}$ on a number line is true?

- A. It is located at the number 7 on the number line.
- B. It is located at the number 3.5 on the number line.
- C. It is located between the numbers 2 and 3 on the number line.
- D. It is located between the numbers 4 and 9 on the number line.

142. Between which two whole numbers is $\sqrt{98}$?

- A. 8 and 9
- B. 9 and 10
- C. 10 and 11
- D. 11 and 12

143. $\sqrt{136}$ is between which two numbers?

- A. 9 and 10
- B. 10 and 11
- C. 11 and 12
- D. 12 and 13

144. The value of $\sqrt{63}$ is between what two numbers?

- A. 62 and 64
- B. 31 and 32
- C. 7 and 8
- D. 3 and 4

145. Which expression represents a number greater than 4?