Quantitative Skills

15 Minutes
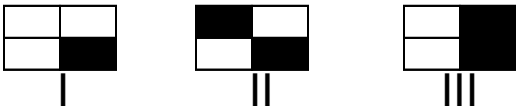
31. Look at this series: 16, 21, 31, 36,
   ….What number should come next?
(A) 41
(B) 46
(C) 45
(D) 44

32. The square of what number is 36
   divided by 4?
(A) 3
(B) 1
(C) 9
(D) 6

33. Which of the following have
   shading that is symmetrical?

I   II   III

(A) I only
(B) II only
(C) I and II
(D) II and III

34. Look at this series: 46, 39, 32, ___,
   18, 11, 4, …What number should fill
   The blank in the middle of the series?
(A) 25
(B) 24
(C) 21
(D) 23

35.   Examine (I), (II), and (III) and find
the best answer.
   (I) 15% of 100
   (II) 20% of 75
   (III) 500% of 3

(A)   (III) is greater than (I) and (II)
(B)   (III) is less than (I) and (II)
(C)   (III) is equal to (I) but less than
        (II)
(D)   (I), (II), and (III) are all equal

36. Look at this series: 34, 32, 35, 33, 36,
what three numbers should come next?
(A) 31, 34, 32,
(B) 34, 36, 40
(C) 34, 37, 35
(D) 39, 37, 40
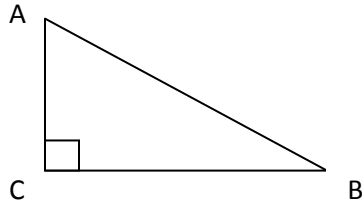
37. What number is 3 less than $\frac{1}{3}$ of 18?

(A) 6
(B) 3
(C) 2
(D) 9

38. Examine (I), (II), and (III) and find the best answer.

(I) $(7 \times 6) \div 3$

(II) $(7 \times 3) - 7$

(III) $(4 \times 2) + 8$

(A)   (III) is greater than (I) and (II)
(B)   (III) is less than (I) and (II)
(C)   (III) is equal to (I) but less than (II)
(D)   (I), (II), and (III) are all equal

39. If AB = 13 and AC = 5, then BC= ?

(A)   8
(B)   12
(C)   144
(D)   25

40. Look at this series: 111, 107, _____, 95, 87, 83. What number should fill in the blank in the middle of the series?
(A) 100
(B) 99
(C) 98
(D) 97

41. $\dfrac{5}{2}$ of what number is 35 divided by 7?
(A) 2
(B) 10
(C) 1
(D) 15

42. Look at this series: 52, 51, 48, 43, 36, 27,… What number should come next?
(A) 17
(B) 15
(C) 16
(D) 11

43. Examine (I), (II) and (III) and find the best answer.

(I) .7
(II) 7%
(III) $\dfrac{1}{7}$

(A) (I) is greater than (III), which is greater than (II).
(B) (I) is equal to (III) and greater than (II).
(C) (I) is equal to (II) and greater than (III)
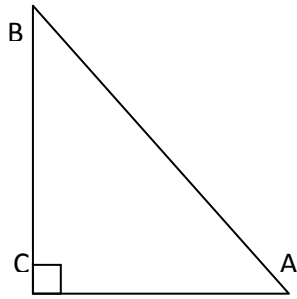(D) (I) is less than (II) and equal to (III).

44. Six times three is $\dfrac{2}{3}$ of what number?

(A) 27
(B) 18
(C) 12
(D) 36

45. Look at this series: 3, 10, 17, 24, 31, 38,…What number should come next?
(A) 41
(B) 47
(C) 45
(D) 43

46. Examine the right triangle below and find the best answer.

(A) $\angle A + \angle B = \angle C$
(B) $\angle A + \angle B > \angle C$
(C) $\angle A + \angle B < \angle C$
(D) $\angle A > \angle C$

47. Look at this series: 200, 199, 189, 188, 178,….What two numbers should come
    next?
(A) 168, 167
(B) 177, 167
(C) 176, 168
(D) 175, 165

48. What number divided by 3 leaves 7 more than 2?
(A) 3
(B) 27
(C) 15
(D) 5

49. Examine (I), (II) and (III) and find the best answer if both x and y are greater than zero.

(I) $4(x + y)$
(II) $4x + 4y$
(III) $4(x + y) + x$

(A) (I), (II) and (III) are equal
(B) (II) is equal to (I), which is less than (III).
(C) (III) is greater than (I) and less than (II).
(D) (I) and (III) are equal.

50. Look at this series: E22, I26, M30, Q34…What comes next?
(A) U38
(B) T37
(C) S36
(D) V40

51. What number is 3 less than $\frac{3}{2}$ of 4?
(A) 12
(B) 9
(C) 6
(D) 3

52. Look at this series: 12, 9, 5, 7, 4, 5, …What number should come next?
(A) 1.5
(B) 1
(C) 2
(D) 3

53. Look at this series: 4, 8, 16, 32… What number should come next?
(A) 62
(B) 64
(C) 34
(D) 36

54. What number is 12 more than $\frac{3}{7}$ of 35?
(A) 15
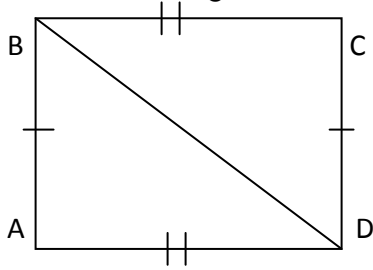(B) 17
(C) 27
(D) 3

55. What number is 9 less than 6 squared?
(A) 25
(B) 27
(C) 36
(D) 45

56. Look at this series: 35, 40, 50, 55,
    65, …What three numbers should
    come next?
(A) 75, 80, 90
(B) 70, 75, 85
(C) 70, 80, 85
(D) 75, 85, 80

57. Examine the rectangle below and find the best answer.

(A) $\overline{AB} > \overline{BC}$
(B) $\overline{AB} = \overline{BD}$
(C) $\overline{BC} = \overline{BD}$
(D) $\overline{BD} > \overline{AD}$

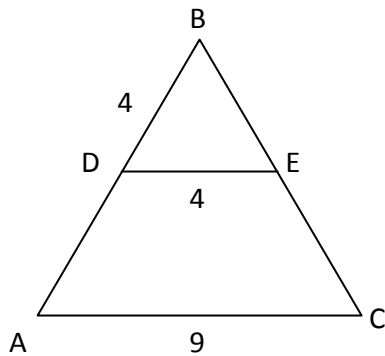**Wait For Instructions *Before* Moving onto the Next Section**

Mathematics

23 Minutes

Directions: Mark one answer – the answer you think is best – for each problem. You may use scratch paper when working these problems.

Concepts

89. Which number is in the hundredths place of the following number:
   123.456
   (A) 1
   (B) 2
   (C) 5
   (D) 6

90. Simplify: $5(-2)^4$
   (A) -80
   (B) 80
   (C) 40
   (D) -40

91. To divide a number by 100, move the decimal point

   (A) two places to the right
   (B) two places to the left
   (C) one place to the right
   (D) one place to the left

92. Which of the following is a pair of reciprocals?

   (A) 4 and -4
   (B) 8 and .25
   (C) 4 and $\frac{1}{4}$
   (D) 4 and $-\frac{1}{4}$

93. The ratio of 2 yards to 12 inches is
   (A) 6 to 1
   (B) 72 to 1
   (C) 5 to 1
   (D) 1 to 6

94. The square root of 150 is between
   (A) 10 and 11
   (B) 11 and 12
   (C) 12 and 13
   (D) 13 and 14

95. Which of the following is true?
   (A) $\frac{1}{3} < \frac{1}{4}$

   (B) $\frac{1}{3} > \frac{1}{2}$

   (C) $\frac{1}{3} < \frac{2}{5}$

   (D) $\frac{1}{3} > \frac{4}{9}$

96. Which of the following represents an irrational number?
   (A) 0

   (B) $\frac{1}{3}$

   (C) $.\overline{8}$

   (D) π

97. △ABC is similar to △DBE. The length of AD is

(A) 9
(B) 5
(C) 4
(D) 13

98. As a fraction, 0.36 is written in *simplest* form as

(A) $\dfrac{36}{100}$

(B) $\dfrac{18}{50}$

(C) $3\dfrac{3}{5}$

(D) $\dfrac{9}{25}$

99. The least common multiple 4 and 6 is

(A) 12
(B) 3
(C) 4
(D) 24

100. If Ray can clean a room in 4 hours and Phil can clean the same room in 6 hours, how long will it take them to clean the room together?
(A) 2 hours
(B) 2 hours and 24 minutes
(C) 2 hours and 40 minutes
(D) 5 hours

Problem Solving

101. Solve: $2\dfrac{1}{7} - \dfrac{4}{5} =$

(A) $2\dfrac{7}{35}$

(B) $1\dfrac{7}{35}$

(C) $1\dfrac{2}{35}$

(D) $1\dfrac{12}{35}$

102. Emily has $24 less than three times the amount Diane has. If Emily has $27, how much money does Diane have?
(A) $28
(B) $18
(C) $1
(D) $17

103. The formula $F = \dfrac{9}{5}C + 32$ converts temperature from Centigrade to Fahrenheit. What is the Centigrade temperature for 86º Fahrenheit?

(A)   30 º
(B)   46 º
(C)   27 º
(D)   54 º

104. If 3x – 24 = x + 6, x =
(A) 15
(B) 20
(C) 6
(D) 10

105. If Jeff and his date Ashley each buy a slice of pizza for $3.90 and there is a 7% sales tax, how much change will Jeff receive if he pays with a $10 bill?
(A) $2.28
(B) $1.65
(C) $5.84
(D) $0.67

106. If Greg is 6 feet tall and has a shadow that is 8 feet long, how tall is Frank if his shadow is 40 inches long?

(A)　2 feet
(B)　2 feet and 12 inches
(C)　2 feet and 6 inches
(D)　2 feet and 5 inches

107. Solve for x:　$3(5x-4) = 18$

(A)　$1\frac{7}{15}$

(B)　$4\frac{2}{5}$

(C)　2

(D)　$\frac{2}{5}$

108. If A = 2 and B = -3, then A–AB =
(A) -4
(B) 8
(C) 0
(D) 4

109. Solve:　$2\frac{1}{5} + 3\frac{1}{3} + 1\frac{1}{15} =$

(A)　$6\frac{1}{5}$

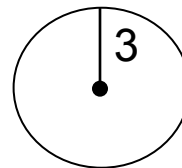(B)　$6\frac{3}{5}$

(C)　$6\frac{4}{5}$

(D)　$6\frac{7}{15}$

110. If $3x-4 = \frac{1}{3}$, then x=

(A)　$1\frac{4}{9}$

(B)　$\frac{4}{9}$

(C)　$\frac{1}{9}$

(D)　$2\frac{5}{9}$

111. If it costs $2.50 per square foot to paint a wall, how much will it cost to paint two walls if the walls are 12' by 20'

(A)　$1200
(B)　$600
(C)　$110
(D)　$1,000,000

112. The area of the following circle is

(A) 3π
(B) 6π
(C) $9\pi^2$
(D) 9π

113. $\frac{7}{9}x = 56$

(A) 63
(B) 72
(C) 504
(D) 56

114. Solve:　-0.02×6.78

(A) -12.56
(B) -13.56
(C) -0.1356
(D) -1.356

115. Solve:　$45.652 \times 1,007$
(A) 45,971.564
(B) 45,969,564
(C) 45,961.564
(D) 45,971.264

116. If x – 5 < 11, x is
(A) less than 6
(B) less than 16
(C) greater than 6
(D) greater than 16

117. Solve: .231+1.03+3.2=
(A) 4.461
(B) 4.251
(C) 4.431
(D) 4.434

118. Solve: $1.5\overline{)32.7}$

(A) 2.28
(B) 218
(C) 22.8
(D) 21.8

119. If each school bus carries 48 passengers, how many busses are necessary to transport 1,000 students?
(A)   48,000 busses
(B)   20 busses
(C)   21 busses
(D) $20\dfrac{5}{12}$ busses

120. When buying a car, the tax rate is $5.18 for each $100 spent. How much tax will be paid on a car assessed at $21,000?
(A) $877.80
(B) $1,087.80
(C) $1,878.00
(D) $1,036.00

Wait For Instructions *Before* Moving onto the Next Section