Medium

45. After 8 new customers entered the grocery store and 2 customers left the store, there were three times as many customers in the store as there were before. How many customers were originally in the grocery store?
    a) 1
    b) 2
    c) 3
    d) 4

46. In a certain skiing resort, daily entrance costs $60. However, a triple ticket for three days can be bought for $150. How much money can be saved by buying a triple ticket rather than buying three daily tickets?
    a) $20
    b) $30
    c) $40
    d) $55

47. Six erasers cost as much as 3 pencils. If Matt bought one eraser and one pencil for $1.50, how much does one pencil cost in dollars?
    a) 0.25
    b) 0.50
    c) 0.75
    d) 1.00

48. When the average (arithmetic mean) of a list of grades is multiplied by the number of students, the result is n. What does n represent?
    a) the number of the grades
    b) the average of the grades
    c) the sum of the grades
    d) the range of the list of the grades

49. Helen had to pay off her student loan $24,000 on a twelve-year payment plan. The amount she paid each year for the first six years is three times as much as the amount she paid each of her remaining years. How much did she pay the first year?
    a) $3000
    b) $2000
    c) $1500
    d) $1000

50. A school fundraising event aims to raise $1000 by purchasing muffins for m dollars each and then selling them at $\frac{7m}{5}$ dollars each. How many muffins do they need to sell to reach their goal? ®
    a) $\frac{5000}{m}$
    b) $\frac{2500}{m}$
    c) $400m$
    d) $2500m$

51. By doing her chores, Jessica's parents pay Jessica m dollars on Monday, $1 more than twice as much on Tuesday as on Monday, and $2 more than triple as much on Wednesday as on Monday. How many dollars does she earn during these three days? ®
    a) $6m + 3$
    b) $3m + 3$
    c) $6m + 1$
    d) $3m + 1$

52. To rent a single movie from a DVD lending machine, Mrs. Kinney was charged $1 for the first day. For every day afterwards, she must pay a rental fee of $1 plus a late fee of $.50. If she paid a total of $7, how many days did she keep the DVD?
    a) 2
    b) 3
    c) 4
    d) 5

53. If John gives Sally $5, Sally will have twice the amount of money that John will have. Originally, there was a total of $30 between the two of them. How much money did John initially have?
    a) 25
    b) 21
    c) 18
    d) 15

54. By 7 AM, $\frac{1}{4}$ of all students were in school. Half an hour later, 80 more students arrived, raising the attendance to $\frac{3}{4}$ of the total students. How many students are in this school?
    a) 300
    b) 320
    c) 240
    d) 160

55. A cube has 3 faces painted yellow and the remaining faces painted blue. The total area of the blue faces is 27 square inches. What is the volume of this cube, in cubic inches?
    a) 9
    b) 27
    c) 36
    d) 64

56. The rate for a long distance call is $1.00 for the first minute and $.75 for each additional minute. Which of the following represents the cost, in dollars, of a phone call made for n minutes? ®
    a) 1.75n
    b) 1.00 + n
    c) 1.00 + 0.75(n – 1)
    d) 1.00 + 1.75 (n – 1)

57. If 7 more than twice a certain number is equal to the product of 3 and the number, what is the number?

58. A company sells boxes of marbles in red and green. Helen purchased a box of marbles in which there were half as many green marbles in the box as red ones and 20 marbles were green. How many marbles were in Helen's box?

    a) 67
    b) 60
    c) 34
    d) 20

59. Bob needs two 60" pieces of duct tape to protect each window in his house during hurricane season. There are 12 windows in the house. Bob had an m-foot roll of duct tape when he started. If no tape was wasted, which of the following represents the number of feet of duct tape left after he finished taping all of his windows? ®

    a) $m - 240$
    b) $m - 120$
    c) $m - 60$
    d) $m - 20$

60. Mrs. Alan's class of 23 students will have a 3-day educational camp. Each student is expected to use one pack of index card each day. If index cards are bought as a box of six packs, how many boxes will Mrs. Alan have to buy?

    a) 10
    b) 11
    c) 12
    d) 13

61. The rectangle ABCD below is divided into 16 smaller identical rectangles. The ratio of the length to the width of each small rectangle is 3 to 1. If the area of the rectangle ABCD is 48 square units, what is the length of DE?

    a) 1
    b) 3
    c) 8
    d) 9

62. If $x > 0$, what is 50% of $30x$?
    a) $1.5x$
    b) $15x$
    c) $150x$
    d) $1500x$

63. How old was William 5 years ago if a years ago he was b years old (given that $a > 5$ and $b > 5$)? Ⓡ
    a) $a + b$
    b) $a + b + 5$
    c) $b - a - 5$
    d) $a + b - 5$

64. 3 times a number is the same as the number itself. What is the number?

65. Which of the following is equivalent to $\frac{1}{3}$ of 51% of 330?
    a) 51% of 110
    b) 17% of 110
    c) 51% of 330
    d) 49% of 110

66. If x is $\frac{3}{4}$ of y, y is $\frac{2}{3}$ of z, and $z > 0$, and then what is x in terms of z?
    a) $\frac{3}{4}z$
    b) $\frac{1}{2}z$
    c) $\frac{1}{4}z$
    d) $2z$

67. If the product of 0.6 and a number is equal to 1, what is the number?

68. Find the product of 10 and the sum of m and 10. Then, find one-tenth of the difference between that product and 10. In terms of m, what is the final result? Ⓡ
    a) $m - 1$
    b) $m - 10$
    c) $m + 9$
    d) $m + 10$

69. If 14% of x is equal to 7% of y, which of the following is equivalent to y?
    a) 200% of x
    b) 20% of x
    c) 2% of x
    d) 98% of x

70. Among the 12 colleges Helen applied to, 3 are her top schools. How many admissions would Helen have to receive to guarantee that she can get into at least one of her top schools?
    a) 8
    b) 9
    c) 10
    d) 11