GT4 (Zoom, 2020) Issue 12

Math Power

April 12, 2020
☎: 301-251-7014
site: http://www.MathEnglish.com

By Dr. Li
E-mail : DL@MathEnglish.com

Name: (First)_____(Last)_____

School: _____ Grade:_____

Math Joy

1. If Levi sold 64 out of 96 pens, how many pens did he have left to sell?

2. If one bee has 6 legs, how many legs do 8 bees have?

3. If one pencil costs 30¢, how much do 12 pencils cost?

4. If one toys costs $6.00, how much do 4 toys cost?

5. Judy and her sister drove to a concert 78 miles away. They drove 32 miles and then stopped for gas. Her sister put 28 gallons of gas in the car. How many miles did they have left to drive?

6. What month is it which is 8 months before June?

7. An eraser and 2 pencils cost $1.40. If the price of a pencil is 40 pennies, what is the price of an eraser?

8. Beth has 14 crayons. If she gives half of them away to Jen, how many crayons does Beth have left?

9. Betty has 45 oranges stored in boxes. If there are 3 boxes, how many oranges must go in each box?

10. Each child has 4 Skittles. If there are 7 children, how many Skittles are there in total?

11. If 17 of 92 jars paint out were used, how many jars of paint were left?

12. If Celia gives each of her 12 students and herself two scoops of ice cream, how many scoops of ice cream will she need?

13. If Tina sold 173 cups of apple juice and 107 cups of grape juice at a fair, how many cups of juice did she sell in total?

14. It takes 7 minutes to bake one pan of cookies. How long will it take to bake 4 pans of cookies?

15. Jack is inviting 4 friends to a party. He has 48 cookies. How many cookies will each friend get?

16. Karen has 13 crayons. Cindy has 5 crayons. How many crayons does Karen need to give Cindy so that they both will have the same number of crayons?

17. Margaret had 24 rainbow stickers. If she gave Tom a third, kept 10 stickers for herself, and gave Tim the rest, how many stickers did she give Tim?

18. Mr. Power got 7 people helping him. If he added another 6 people, how many people helped him in total?

19. Sam earns $3 per hour as a gift wrapper. He works 7 hours each day. How much does he earn in a day?

20. Sean made the rabbit hop 12 inches. If Ted made it hop 9 inches, how many more inches did Sean make it hop?

Math Joy

21. If Karl sold 32 boxes of greeting cards in one month and 27 boxes the next month, how many boxes of cards did he sell in total?

22. If a chef uses 6 lb of salmon, 29 lb of shrimp, and 44 lb of crab meat, how many pounds of salmon and crab meat does he use in total?

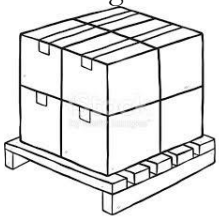
23. Bob has 19 basketball cards and 47 football cards. How many cards does he have in total?

24. A gym had 104 new members in May and 136 in July. How many more new members joined in July than in May?

25. Paula sold a total of 43 tickets. She sold 25 of them on Monday and the rest on Tuesday. How many more tickets did she sell on Monday than on Tuesday?

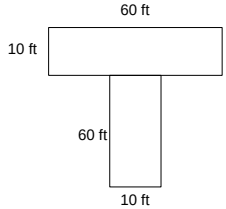
26. It needs an hour to fill 5 water dishes in a zoo. How many hours does it need to fill 20 water dishes?

27. Each pallet weighs 240 lb. What is the total weight of the shipment of 4 pallets?



28. Jess loaded a sandbag into 4 balloons. Each sandbag weighed 45 kilograms. How many kilograms did the sandbags weigh in total?

29. A 'T' shape parking lot is to be topped by 1 foot by 1 foot stone pavers. How many pieces will be needed?



30. A park has 125 visitors every week. How many people visit it in 4 weeks?

31. If you can save \$5 a week, in how many weeks, can you save \$40?

Question set [**32 - 34**]

Each case can hold 6 books.

32. How many books can three cases hold?

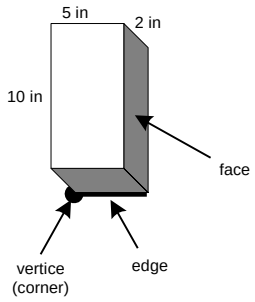
33. How many cases are needed to hold 12 books?

34. How many cases are needed for 20 books?

35. Alex, Brian and Charlie are triplets. Five years ago, their total age was 18. How old will they be five years from now?

Question set [**36 - 39**]

Charlie has rectangular box with length 10 in, width 5 in and height 2 in. See the following figure.



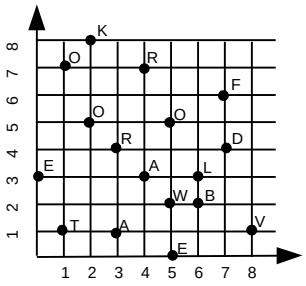
36. How many faces of the box are there?

37. How many edges are there on the box?

38. How many vertices (corners) are there on the box?

39. What is the volume of the box?

40. Use the coordinates to identify points on the graph. Then use the point names to solve the riddle by filling in the blanks at the bottom of the page.



Riddle: What do cheerleaders like to drink?

Lots

_____ (5, 5)
_____ (7, 6)

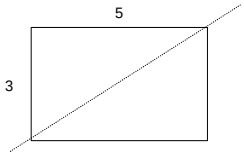
_____ (3, 4)
_____ (2, 5)
_____ (1, 7)
_____ (1, 1)

_____ (6, 2)
_____ (0, 3)
_____ (5, 0)
_____ (4, 7)

Age Problems

41. What is the perimeter of a square with area 36 cm^2?

42. The rectangle pictured below has a perimeter 50 inches, with a 20-inch length. What is the area in square inches?

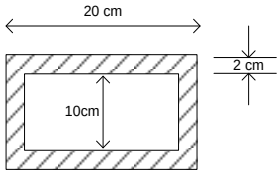


43. A 10 feet long rectangle has an 80 sq. feet area. What is the width of the rectangle?

44. A 10 inch wide rectangle has a 50 inch perimeter. What is the area of the rectangle?

45. A 8 inches wide rectangle has a perimeter of 56 inches. What is the length of the rectangle?

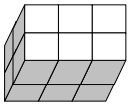
46. Find the area of shaded region below:

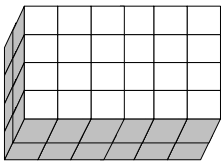


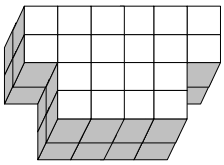
47. The perimeter of a square is 60 inches. What is its area?

Question set [**48 - 50**]

Count the number of cubes.

48. 

49. 

50. 

51. Mark built a log fort in the shape of a square, with no door. He used 8 vertical posts on each side of his fort. How many posts did he use? (Hint: Draw a diagram.)

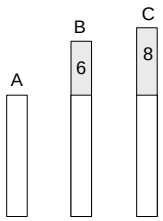
52. A 15 inch long rectangle has a perimeter of 50 inch. What is the area of the rectangle?

Question set [**53 - 55**]

The sum of the ages of Alex, Brian, and Carl is 50. Brian is 6 years older than Alex, and Carl is 2 years older than Brian.

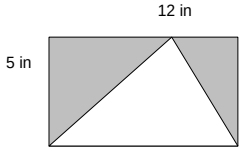
53. How much older is Carl than Alex?

54. In the diagram below, the bar length indicates their respective age. What is the total length of these bars?



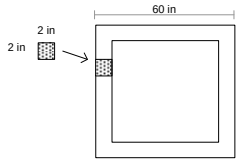
55. Find their ages of them using the previous diagram.

56. Find the area of the shaded region below.



57. A 10-in wide rectangle has a perimeter of 48 inches. What is the area of the rectangle?

58. Sam has a square frame 60 inches by 60 inches square as pictured below. He wants to decorate it by adhering 2×2 in^2 square glitter pieces to the frame border as in the figure. How many pieces of glitter does he need?



59. A rectangle has a perimeter of 120 inches and a width of 20 inches. What is the area of the rectangle?

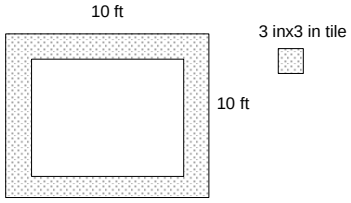
60. A rectangle has a width of 10 inches and a perimeter of 50 inches. The area of the rectangle is _____ square inches.

GT Math Stretch

61. $1.2^2=$

62. Eighteen karat gold is 75% pure gold and 14 karat gold is $58\frac{1}{3}$% pure gold. Express each of these percents as a fraction in simplest form.

63. The basement of John's home is a square with 10 ft by 10 ft. He plans to tile border part of the basement by 3 in. by 3 in. marble tiles. How many pieces of marble tiles will be used? (Hint: 1 ft. = 12 in.)

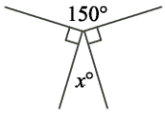


64. Recycling 1 ton of paper will save $1\frac{1}{3}$ trees. If 6 schools each recycle $3\frac{1}{4}$ tons of paper, how many trees will be saved?

65. One third of a class of 30 students are girls. Two girls join the class and two boys leave the class. What fraction of the class do the boys now represent?

66. The set S = {1, 2, 3, …, 19, 20} contains the first 20 positive integers. After the multiples of 2 and the multiples of 3 are removed, how many integers remain in the set S?
(A) 4 (B) 5 (C) 6 (D) 7 (E) 8

67. Fifty people ate breakfast. Thirty had croissants and 40 had orange juice. If each person ate at least one of the 2 items on the menu (juice and croissants), how many people had both items?

68. 

As the figure shown below, what is the value of x?
(A) 40 (B) 35 (C) 150
(D) 30 (E) 25

69. A recipe for pumpkin pie calls for $\frac{4}{3}$ cup of milk. How many pies can be made with 1 gallon of milk? (Hint: 1 gallon = 16 cups)

70. Write the unit rate for the following. A car travels 120 miles with 5 gallons of gas. What is the mileage per gallon?

71. Notebooks are priced at 3 for $4. What is the cost of 12 notebooks?

72. A piece of string is 40 centimeters long. It is cut into three pieces. The longest piece is 3 times as long as the middle-sized piece and the shortest piece is 23 centimeters shorter than the longest piece. How long is the shortest piece?

73. Cathy spends 8 hours sleeping a day. What percent of a day does she stay awake?

74. The pictograph below records Vista Sunglass sales this year.

VISTA SUNGLASS SALES FOR 2004

Color of Lens	Pairs Sold
Brown	2
Yellow	6
Green	3
Gray	4

KEY
= 10,000 pairs

How many more yellow lenses were sold than gray ones?

Question set [**75 - 77**]

The Fish Bowl store had a sale. During the sale, the store gave away two kinds of fish: goldfish and catfish.

- Every 8th customer received a free goldfish.
- Every 12th customer received a free catfish.

There were 144 customers on the day of the sale.

75. How many goldfish were given for free?

76. How many catfish were given for free?

77. How many lucky customers received both a free goldfish and a free catfish?

78. The sales price on a table was $300. If the tax rate was 5%, how much you need to pay if you would like to buy the table?

Question set [**79 - 80**]

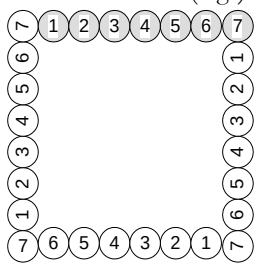
Write the unit rate for the following.

79. Mike makes $20 in 4 hours at McDonald's. What is his hourly rate?

80. A car travels 120 miles with 5 gallons of gas. What is the mileage per gallon?

Answer Key

1. 96 - 62 = 34
2. 8×6 = 48
3. 12×30 = 360¢ = $3.60
4. 4×6 = 24
5. 78 – 32 = 46
6. October
7. 2×40 = 80
   140 - 80 = 60¢
8. 14 – 7 = 7
9. 45÷3 = 15
10. 4×7 = 28
11. 92 - 17 = 75
12. 12 + 1 = 13
    2×13 = 26
13. 173 + 107 = 280
14. 7×4 = 28
15. 48÷4 =12
16. 13 – 5 = 8
    8÷2 = 4
17. 24÷3 = 8
    24 - (10 + 8) = 6
18. 7 + 6 = 13
19. 3×7 = 21
20. 12 - 9 = 3 in
21. 32 + 27 = 59
22. 6 + 44 = 50 (lb)
23. 19 + 47 = 66
24. 140 - 104 = 36
25. 43 – 25 = 18
    25 – 18 = 7
26. 20÷5 = 4
27. 4×240 = 960 lb
28. 4×45 = 180 kg
29. 60×10×2 = 1200
30. 125×4 = 500
31. 40÷5 = 8
32. 6×3 = 18
33. 12÷6 = 2
34. 20÷6 = 3 R 2
    3 + 1 = 4
35. 18÷3 = 6
    6 + 5 = 11
    11 + 5 = 16
36. 6 faces
37. 12 edges
38. 8 vertices
39. 10×5×2 = 100 in^3
40. OF ROOT BEER
41. 36 = 6×6
    4×6 = 24 cm
42. 50÷2 = 25
    25 - 20 = 5
    20×5 = 100 in^2
43. 80÷10 = 8
44. 50÷2 = 25
    25 - 10 = 15 (length)
    15×10 = 150 in^2
45. 56÷2 = 28
    28 - 8 = 20 in
46. the area of shaded region
    = bigger rectangle \ smaller rectangle
    = 20×14 - 16×10
    = 280 - 160
    = 120 cm^2
47. 60÷4 = 15
    15^2 = 225 sq. in.
48. 2×2×3 = 12
49. 4×2×6 = 48
50. 2×2×6 = 24
    2×2×4 = 16
    24 + 16 = 40
51. 8 – 1 = 7
    7×4 = 28 logs
    Note: Many students make mistake by giving answer as 8×4 = 32 (logs).



52. 50÷2 = 25
25-15 = 10 (width)
15×10 = <u>150 square inches</u>

53. 2 + 6 = 8

54. 50

55. 6 + 8 = 14
50 - 14 = 36
36÷3 = 12 (Alex)
12 + 6 = 18 (Brian)
12 + 8 = 20 (Carl)

56. area = $\frac{5\times12}{2}$ = 30

57. 48÷2 = 24
24 – 10 = 14
10×14 = <u>140 in²</u>

58. 60÷2 = 30
30×4 - 4 = <u>116</u>

59. 120÷2 = 60 (half-perimeter)
60 - 20 = 40 (length)
40×20 = 800 in²

60. 50÷2 = 25
25 - 10 = 15 (length)
15×10 = <u>150 in² (area)</u>

61. 1.44

62. 75% = $\frac{3}{4}$
$58\frac{1}{3}\% = \frac{7}{12}$

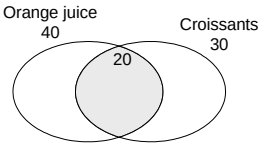
63. 10 ft = 120 in
120÷3 = 40 (tiles each side)
40×4 - **4** = 156 tiles (around)
Note: We need to deduct **4** tiles from corners.

64. $1\frac{1}{3}\times6\times3\frac{1}{4} = \frac{4}{3}\times6\times3\frac{1}{4}$ = 26 trees

65. $\frac{1}{3}\times30$ = 10 (girls)
30 - 10 = 20 (boys)
10 + 2 = 12
20 - 2 = 18 (boys)
$\frac{18}{30} = \frac{3}{5}$

66. D
In the first 6 numbers, only two will stay: 1 and 5.
20÷6 = 3 (rem 2)
3×2 = 6
(1, 5) (7, 11) (13, 17) (19)
(Don't forget 19)
6 + 1 = 7

67. 30 + 40 = 70
70 - 50 = 20



68. D

69. 1 gallon = 16 cups
$16\div\frac{4}{3} = 16\times\frac{3}{4}$ = 12 pies

70. 120÷5 = 24 mi/gal

71. 12÷3 = 4
4×4 = $16.00

72. Let the middle length be x cm, so the longest one be $3x$.
The shortest one then is $3x$ - 23 (cm).
The total length = $x + 3x + 3x - 23 = 40$
$7x = 63$
$x = 9$
$3x - 23$ = 4 cm

73. $\frac{2}{3} = 66\frac{2}{3}\%$

74. 2×10,000 = 20,000

75. 144÷8 = 18 goldfish

76. 144÷12 = 12 catfish

77. LCM(8, 12) = 24, which mean every 24th customer received both a goldfish and a catfish.
144÷24 = 6 customers

78. 300×(1 + 5%) = 300 + 15 = $315

79. 20÷4 = $5 per hour

80. 120÷5 = 24 mi/gal