Math Power

September 1, 2024

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School: _____ Grade:_____

MAP 260 (T1) Issue 1 (Labor Day Special)

1. .025 × 600 =

2. 100 - (98 - (66 - (64 - 2)))

3. 28 ÷ □ = 5R3

4. Reduce your answer to the lowest terms.

$$\begin{array}{r} \frac{7}{10} \\ +\ \frac{1}{6} \\ \hline \end{array}$$

5. Reduce your answer to the lowest terms.

$$\begin{array}{r} 30\frac{7}{12} \\ -\ 20\frac{3}{8} \\ \hline \end{array}$$

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$$\begin{array}{r} 30\frac{7}{12} \\ -\ 20\frac{3}{8} \\ \hline \end{array}$$

6. Find the smallest number whose factors include 2, 11, and 143.

7. Find the greatest common factor of 1000 and 175.

8. What is the least common multiple of 12 and 15?

9. 75% of a park is covered by woods. The area of the park is 200 acres. What is the area (in acre) of the park <u>not</u> covered by woods?

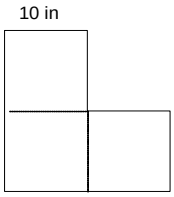
10. A game cartridge is currently sold at $20 each. The price is going up by ⅕ of the original price, what will be the new price?

11. After completing a big project, James took a nice sleep from 6:30 P.M. to 6:15 A.M. How many <u>hours</u> did he sleep?

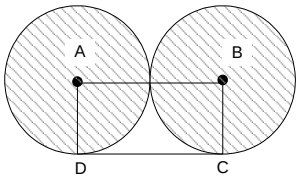
12. Brad's class collected 330 cans of food and put them into boxes. Each box could hold 40 cans of food. How many boxes did they need?

13. Each yard = 3 feet, so 3 square yards =
    A) 6 square feet
    B) 9 square feet
    C) 18 square feet
    D) 27 square feet

14. Find the perimeter of the following figure, which consists of 3 squares, with each side 10 in.



15. In the figure below, A and B are the centers of the two circles with the same radius. The perimeter of the rectangle ABCD is 60 cm. What is the area of two combined circles? (Use 3.14 for π.)



16. Judy wanted to sell 24½ pounds of cheese at $8 per pound. By the end of the day she had only 12⅝ pounds left. How much did she earn from the sale?

17. Mr. Shapiro bought 3 boxes of sugar at $0.80 each, 2 loaves of bread at $0.95 each, and a jar of peanut butter for $2.50. He gave the clerk $10.00. How much change did he get back?

18. The area of a square is 64 sq. inches. Find the perimeter of the square.

19. The recipe for a fruit punch needs 6 cups of lemonade and 8 cups of fruit juice. To get the same flavor of the punch, how many cups of lemonade will be needed in order to make 28 cups of fruit punch?

20. Tom is cutting a piece of wood to make a shelf. He cut the wood to 3.5 feet, but it is too long. He decides to cut 0.25 feet off the board. How many feet will the board be after he makes the cut?

21. $.1 \times .02 \times .003 =$

22. $100 \times (0.31 + 0.23 \times 3)^2 =$

23. $3 - 4 \times (5 - 3) =$

24. What is the least common multiple of 4, 5, and 6?

25. $75 \div 1\frac{1}{4} =$

26. How many hours are there in $\frac{2}{3}$ of a day?

27. Find the greatest common factor of 144 and 160.

Question set [**28 - 30**]

A game requires each team with the same number of players and the same number of boys. (Namely, each team should have the same number of girls.)

28. How many teams at most can be formed for 90 boys and 72 girls?

29. What is the least number of boys in each team?

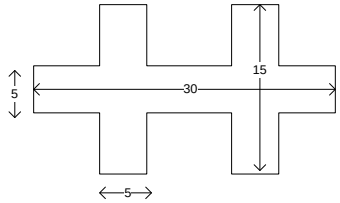
30. What is the least number of girls in each team?

31. After Jane spends ⅓ of her money and loses ½ of her remaining money, she then has $10 left. She started with
A) $30
B) $40
C) $50
D) $60

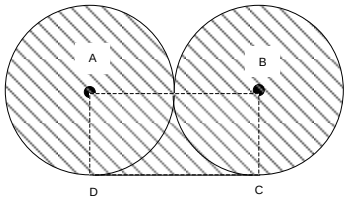
32. Cal signed and sold 21 copies of his book. The copies were packed in boxes of 6. How many boxes did Cal open?

33. Eli is trying to organize his toolbox. He has 45 bolts, 60 nuts, and 90 washers. He wants to divide it all into groups so that each group has equal numbers of bolts, nuts, and washers. How many items in total does each group have at least? (Hint: How many groups can he make at most?)

34. Find the perimeter of the shape below.



35. In the figure below, A and B are the centers of the two identical circles. The perimeter of the rectangle ABCD is 60 cm. What is the area of shaded region? (Use 3.14 for π.)

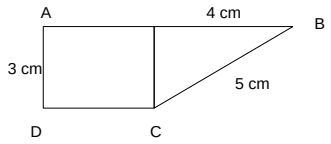


A) 628 cm^2
B) 660 cm^2
C) 671 cm^2
D) 750 cm^2

36. Julio caught 15 fish. Erin caught twice as many fish as Julio. Kesha caught 7 more fish than Erin. How many fish did they catch in all?

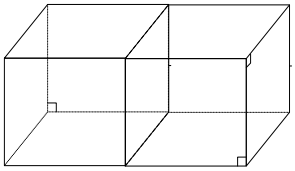
37. Mr. Taylor paid $9.45 for 3 rolls of film. How much did each roll cost?

38. The area of the figure is 42 cm^2. Find the perimeter.



39. The Robin's Nest Nursing Home had a fundraising goal of $9,500. By the end of the fundraiser, they had exceeded their goal by $2,100. How much did they raise?

40. Two cubes are glued as below. The (exposed) surface area of the combined object is 360 in^2. Find the volume (in^3) of this combined object.



41. $245 \div 7 =$

42. If $\frac{32}{48} = \frac{a}{30} = \frac{30}{b}$, find the value of $a + b$.

43. Find the elapse time between 7:28 A.M. and 7:21 P.M.

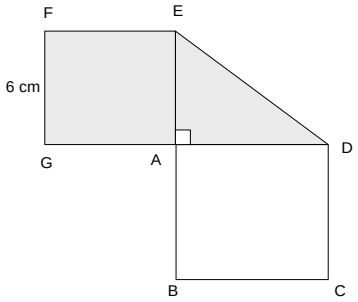
44. $\frac{3+\frac{2}{5}}{2+\frac{1}{25}} =$

45. $10 + 9 - 8 - 7 + 6 + 5 - 4 - 3 + 2 + 1 =$

46. $64 \neq$
    A) 16^4
    B) 8^2
    C) 4^3
    D) 2^6

47. A concert starts at 6:15 P.M. and ends at 8:10 P.M. How many minutes does the concert last?

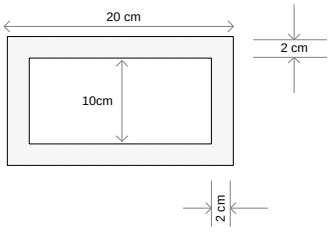
48. ABCD and EFGA are two squares. The area of the shaded region is 57 cm^2. Find the area of the square ABCD.



49. Bob had \$240. He spent \$48. What percent of his money was left?

50. During the summer Amanda earned \$800. She saved 55% and spent the rest. How much money did she spend?

51. Find the area of the shaded part.

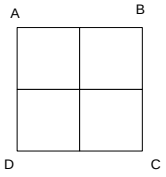


52. In Anchorage, Alaska, the temperature at noon was 31° F. By evening, it dropped 40° F. Late at midnight, it dropped another 12° F. What was the temperature at midnight?

53. Josephine spent 0.3 of a day cleaning. Helena spent $\frac{2}{5}$ of a day. Isabelle spent 8 hours 30 minutes. Who cleaned the longest?

54. Mr. Jackson can jog 2 miles in 30 minutes. How long he can jog in 2 hours at this rate?

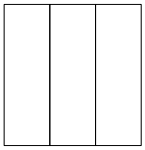
55. Square ABCD is divided into four smaller squares, as shown. The area of each smaller square is 9 cm^2. What is the perimeter of square ABCD?



56. The radius of a wheel is 6 in. How many <u>feet</u> can the wheel travel in 50 revolutions?
(Hint: 1 ft = 12 in, and use 3.14 for π)

<u>Question set</u> [**57 - 58**]

Three rectangles form a square. The square has a <u>perimeter</u> of 48 in.



57. What is the width (shorter side) of a rectangle?

58. What is the area of <u>one rectangle</u>?

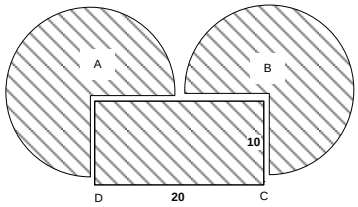
59. Find the result of $175 \div 6\frac{1}{4}$.

60. Find the total of 7 hours, 25 minutes, 10 seconds and 13 hours 55 minutes.

Answer Key

1. 15
2. 100 - 98 + 66 - 64 + 2 = 6
3. 5
4. $\frac{13}{15}$ = 13/15
5. $10\frac{5}{24}$ = 10 5/24
6. 286
7. 25
8. 12 = 4×3
   15 = 5×3
   The least common multiple is 3×4×5 = 60
9. 1 - 75% = 25%
   200×25% = 50 acres
10. 20×⅕ = 4
    20 + 4 = $24
11. 6:15 P.M. - 6:30 A.M.
    = 18:15 - 6:30
    = 11¾ = 11 3/4 hr
12. 330÷40 = 8R10
    Ans = 9 boxes
13. D
    1 square yard = 9 sq. ft.
14. 80
15. There are two methods to find the radius.
    Method I)
    60÷2 = 30
    30 = 10 + 20
    radius = 10
    AB = 20
    Method II)
    2(1 + 2) = 6
    60÷6 = 10 (radius)

    $10^2\pi = 100\pi = 314$
    2×314 = 628 cm^2
16. $95
17. 3×0.8 + 2×0.95 + 2.5
    = 2.4 + 1.9 + 2.5
    = 6.8
    10 - 6.8 = $3.20
18. 64 = 8×8
    4×8 = 32 in
19. 12 (cups)
20. 3.50 - 0.25 = 3.25
21. .000006
22. 100
23. -5
24. 60
25. 60
26. $\frac{2}{3}$×24 = 16
27. 16
28. GCD(90, 72) = 18 teams
29. 90÷18 = 5 boys
30. 72÷18 = 4 girls
31. A
32. If he open 3 boxes, then 3×6 = 18 (copies), which are not enough.
    Ans = 4 boxes
33. GCF(45, 60, 90) = 15 (groups)
    45÷15 = 3
    60÷15 = 4
    90÷15 = 6
    3 + 4 + 6 = 13
34. 30×2 + 5×2 + 4(15 - 5)
    = 60 + 10 + 40
    = 110
35. C
    radius = 10
    ¾×2×100π = 150π
    10×20 = 200
    200 + 150π = 671



36. Julio = 15
    Erin = 30
    Kesha = 37
    Total = 82
37. 9.45÷3 = $3.15
38. ½×3×4 = 6(triangle area)
    42 - 6= 36 (rectangle area)
    36÷3 = 12 cm (length of CD)
    4+5+12+3+12 = 36 cm (perimeter)
39. 9,500 + 2,100 = 11,600
40. 360 ÷ 10 = 36
    36 = 6×6
    6×6×6 = 216
    2×216 = 432 in^3
41. 35

42. $\frac{32}{48} = \frac{3}{2} = \frac{\mathbf{45}}{30} = \frac{30}{\mathbf{20}}$
a = 20, b = 45
a + b = 20 + 45 = 65

43. 11 hr & 53 min

44. $\frac{3+\frac{2}{5}}{2+\frac{1}{25}} = \frac{\frac{17}{5}}{\frac{51}{25}} = \frac{5}{3}$ = 1 2/3

45. (10 + 9 – 8 – 7) + (6 + 5 – 4 – 3) + 2 + 1
= 4 + 4 + 3
= 11

46. A

47. 1 hr 55 min = 115 min

48. 57 - 6×6 = 21
21×2÷6 = 7 (length of AD)
7×7 = 49

49. 48÷240 = 0.2
1 - 0.2 = 0.8 = 80%

50. 800×45% = 800×.45 = $360

51. 20×14 - 16×10 = 280 - 160 = 120 cm^2

52. 31 - 40 - 12 = -21

53. Josephine = 0.3×24 = 7.2 hr
Helena = $\frac{2}{5}$×24 = 9.6 hr
Isabelle = 8.5 hr

54. 8

55. 9 = 3×3
each side = 3 (smaller square)
2×3 = 6
4×6 = 24 cm (perimeter of ABCD)

56. 6×2×3.14×50÷12 = 157 ft

57. 48÷4 = 12
12÷3 = 4

58. 4×12 = 48

59. 28
$175 \div 6\frac{1}{4} = 175 \times \frac{4}{25} = 28$

60. 21 hr 20 min 10 sec
20 hr 80 min 10 sec
= 21 hr 20 min 10 sec