

Math Power

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Name: (First)_____ (Last)_____

School: _____ Grade: _____

Review

1. $.025 \times 600 =$

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

3. $28 \div \square = 5R3$

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.

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

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

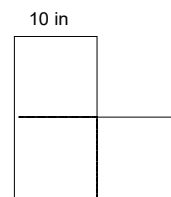
MAP 270 (T3) Issue 3

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

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

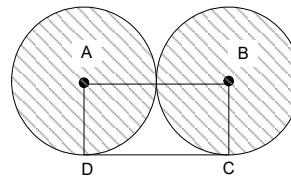
9. 75% of a park is covered by woods. The area of the park is 200 acres. What is the area (in acre) of the park not covered by woods?

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



10. A game cartridge is currently sold at \$20 each. The price is going up by $\frac{1}{5}$ of the original price, what will be the new price?

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 .)



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

16. Judy wanted to sell $24\frac{1}{2}$ pounds of cheese at \$8 per pound. By the end of the day she had only $12\frac{5}{8}$ pounds left. How much did she earn from the sale?

MAP 270 (T3) Issue 3

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?

22. $(1\frac{1}{4})^2 =$

23. $\sqrt{0.81} =$

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

24. $\frac{4}{5} \div \frac{5}{7} =$

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?

25. _____ % of 64 = 8

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?

26. $1\frac{2}{3}$ hours = _____ minutes

27. $2 \times (-3) \times (-4) \times \frac{1}{8} =$

Review

21. $(\frac{1}{2})^2 - (\frac{1}{3})^3 =$

28. $24 \div -6 \div 2 =$

MAP 270 (T3) Issue 3

29. Solve the following linear equation :

$$17 = 2t + 5$$

30. $4 - (5 - 10) =$

31. Simplify:

$$\frac{1 - \frac{1}{3}}{1 + \frac{1}{3}} =$$

32. Write down the prime factors of 91.

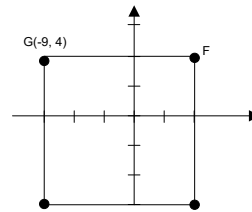
33. $5\frac{1}{3} \times 12$

34. A \$80-coat is on sale for 30% off. What is the sale price?

35. A rectangular playground is to be covered with 6 in \times 6 in marble tiles. If the dimensions of the playground is 5 ft \times 6 ft, how many pieces of tile will be used? (Hint: 1 ft = 12 in)

36. Consider a 2-digit number. If the sum of the digits is 12 and the tens digit is twice the ones digit, what is this number?

37. Find the coordinates for the point F.



38. If $\frac{2a+3}{4} = \frac{1}{8}$, then $a =$ _____

39. If the difference between $\frac{1}{2}$ of a number and $\frac{1}{3}$ of the same number is 6, what is the number?

MAP 270 (T3) Issue 3

40. Saul had 180 out of a total of 250 points in his science class. What was his grade when expressed in percent?

$$47. (-3) - (-5) \times ((-8) - (-2)) =$$

$$48. (-2) + ((-5) + (-2)) \times (-5) =$$

Order of Operations

$$41. (-3) + (-5) \times (-9) =$$

$$49. (-5) \times ((-9) - (-9)) - (-2) =$$

$$42. (-5) - ((-4) - (-4)) =$$

$$50. (25) \times (12) \div ((-5) \times (-3)) =$$

$$43. (-8) \times ((-4) + (-6)) =$$

Solving Linear Equations

Solve the linear equation :

$$7(t - 5) = 5(t + 3)$$

De-parenthesize to solve the equation:

$$7t - 35 = 5t + 15$$

$$2t - 35 = 15$$

$$2t = 50$$

$$t = 25$$

$$44. (-6) - (-4) \times (-3) =$$

$$45. (-9) \times (-5) + (-3) =$$

$$51. -3(-3 - 3x) = 27$$

$$46. ((-2) + (-2)) \times ((-4) - (-3)) =$$

MAP 270 (T3) Issue 3

52. $0.8(t + 5) = 0.6(t - 6)$

59. $3.5x - 3 - 4x = 5 - 4.5x + 3x$

53. $4(1 - 2x) = 20$

60. $0.2x + 0.7 = 1.7 - 0.3x$

54. $-5(3x - 7) = 5$

Reciprocal

Negative power means reciprocal.

E.g. $10^{-1} = \frac{1}{10} = 0.1$

$$10^{-2} = \frac{1}{100} = 0.01$$

$$(-10)^{-2} = \frac{1}{(-10)^2} = \frac{1}{100} = 0.01$$

55. $-1.5(-5x + 4) = 1.5$

Leave your answer in decimal unless directed otherwise.

61. $(-0.2)^{-1} =$

56. $-10 = -5(t - 8)$

62. $-(\frac{1}{5})^{-1} =$

57. $5(2x - 1) - (3x + 4) = 4(x + 3) - 27$

63. $(-0.25)^{-1} =$

58. $8x - 3 - 2x = -45$

64. $(-\frac{1}{4})^{-1} =$

MAP 270 (T3) Issue 3

65. $(-0.5)^{-1} =$

72. $(-50)^{-1} =$

66. $(-1/2)^{-1} =$

73. $(-2)^{-2} =$

67. $(-1.25)^{-1} =$

74. $(-4)^{-2} =$

68. $(-0.125)^{-1} =$
(Hint: $0.125 = \frac{1}{8}$)

75. $(-5)^{-2} =$

69. $(-2.5)^{-1} =$

76. $(-10)^{-2} =$

70. $(-12.5)^{-1} =$

77. $(-0.1)^{-2} =$

71. $(-25)^{-1} =$

78. $(-0.2)^{-2} =$

MAP 270 (T3) Issue 3

79. $(-\frac{1}{5})^{-2} =$

86. If $1.8^2a = 3.14$, find the value of 18^2a .
(Hint: Don't find the value of a .)

80. $(-0.25)^{-2} =$
(Hint: $0.25 = \frac{1}{4}$)

87. Solve: $\frac{1}{2}x + \frac{2}{3}x = 14$

Review

81. $(-.5)^3 =$ (fraction)

88. Solve
 $\frac{1}{3}(2x - 3) = \frac{1}{4}(x + 6)$

82. $\sqrt{(-2.5)^2} + \sqrt{(2.5)^2} =$

89. If 1,000 ft of copper wire weighs 12.8 lb, how much (in lb) would 375 ft of copper wire weight?

83. $-.25^{-2.5} =$

90. If $a \div 1.8 = 12.345$, then $a \div 0.18 =$

84. $2\frac{1}{5} \div 5\frac{1}{2} =$ (in fractions)

85. $3^5 \times 12^5 = \square^{10}$

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

 $10^2\pi = 100\pi = 314$
 $2 \times 314 = \boxed{628 \text{ cm}^2}$
16. \$95
17. $3 \times 0.8 + 2 \times 0.95 + 2.5$
 $= 2.4 + 1.9 + 2.5$
 $= 6.8$
 $10 - 6.8 = \$3.20$
18. $64 = 8 \times 8$
 $4 \times 8 = \boxed{32 \text{ in}}$
19. 12 (cups)
20. $3.50 - 0.25 = \boxed{3.25}$
21. $(\frac{1}{2})^2 - (\frac{1}{3})^3 = \frac{1}{4} - \frac{1}{27} = \frac{23}{108} = 23/108$
22. $1\ 9/16$
23. 0.9
24. $28/25$
25. 12.5
26. $1\frac{2}{3} \times 60 = 100 \text{ min}$
27. 3
28. -2
29. $t = 6$
30. 9
31. $\frac{1}{2} = 1/2$
32. $91 = 7 \times 13$
Ans = 7 & 13
33. $5 \times 12 = 60$
 $\frac{1}{3} \times 12 = 4$
 $60 + 4 = 64$
34. $80 \times 70\% = 80 \times .7 = \56
35. $5 \times 12 \div 6 = 10$ pieces of tile
 $6 \times 12 \div 6 = 12$
 $10 \times 12 = 120$ pieces
36. Let's split 12 into 3 parts: 2 for the tens digit, and 1 for the ones digit. So, tens digit is 8 and ones digit is 4.
Ans = 84
37. F(6, 4)
38. -1.25
39. $\frac{1}{2}x - \frac{1}{3}x = 6$
 $\frac{1}{6}x = 6$
 $x = 36$
40. $180 \div 250 = 72\%$
41. 72
42. -5
43. 80
44. -18
45. 42
46. 4
47. -12
48. 33
49. 2
50. 20
51. $x = 2$
52. $4(t + 5) = 3(t - 6)$
 $4t + 20 = 3t - 18$
 $t = -38$
53. $x = -2$
54. $x = 2$

MAP 270 (T3) Issue 3

55. $x = 1$
56. $t = 10$
57. $x = -2$
58. $x = -7$
59. $-0.5x - 4 = 5 - 1.5x$
 $\Rightarrow 2x = 9$
 $\Rightarrow x = 4.5$
60. $x = 2$
 $0.5x = 1$
 $x = 2$
61. -5
62. -5
63. -4
64. -4
65. -2
66. -2
67. -0.8
68. -8
69. -0.4
70. -0.08
71. -0.04
72. -0.02
73. 0.25
74. 0.0625
75. 0.04
76. 0.01
77. 100
78. 25
79. 25
80. 16
81. $-\frac{1}{8} = -1/8$
82. 5
83. -32
84. $\frac{11}{5} \div \frac{11}{2} = \frac{11}{5} \times \frac{2}{11} = \frac{2}{5} = 2/5$
85. 6
86. 314
87. $\frac{1}{2}x + \frac{2}{3}x = 14$
 $6(\frac{1}{2}x + \frac{2}{3}x) = 6 \times 14$
 $3x + 4x = 84$
 $7x = 84$
 $x = 12$
88. Multiply both sides by 12:
 $4(2x+3) = 3(x+6)$
 $4x+12 = 3x+18$
 $x = 6$
89. $12.8 \times \frac{375}{1000} = 4.8 \text{ lb}$
90. 123.45