

Number Theory

Skill 4 - 13G

Divisibility

A number is divisible by another number if there is no remainder.

Test question 13G

Circle the numbers that are divisible by 3 and 9.

36

48

486

480

558

You can use the divisibility rules for 3 and 9.

If you have difficulty with this test question, move on to section 2 on this page.

The divisibility rule for 3 is: The sum of the digits must be divisible by 3.

36 $3 + 6 = 9$ $9 \div 3 = 3$ **48** $4 + 8 = 12$ $12 \div 3 = 4$ **486** $4 + 8 + 6 = 18$ $18 \div 3 = 6$

480 $4 + 8 + 0 = 12$ $12 \div 3 = 4$ **558** $5 + 5 + 5 + 8 = 18$ $18 \div 3 = 6$

All of the numbers are divisible by 3.

The divisibility rule for 9 is: The sum of the digits must be divisible by 9. The numbers divisible by 9 are the following.

36 $3 + 6 = 9$ $9 \div 9 = 1$ **486** $4 + 8 + 6 = 18$ $18 \div 9 = 2$ **558** $5 + 5 + 5 + 8 = 18$ $18 \div 9 = 2$

The answer to the test question above is 36, 486, and 558. These numbers are divisible by 3 and 9.

Section 2

Directions: Circle the numbers below that are divisible by 3. (remember the rule for the number 3) The sum of the digits must be divisible by 3.

1. 23

2. 33

3. 14

4. 32

5. 36

6. 42

7. 16

8. 12

Answers to the above questions.

1. 23 $2 + 3 = 5$ 5 is not divisible by 3

2. 33 $3 + 3 = 6$ $6 \div 3 = 2$

3. 14 $1 + 4 = 5$ 5 is not divisible by 3

4. 32 $3 + 2 = 5$ 5 is not divisible by 3

5. 36 $3 + 6 = 9$ $9 \div 3 = 3$

6. 42 $4 + 2 = 6$ $6 \div 3 = 2$

7. 16 $1 + 6 = 7$ 7 is not divisible by 3

8. 12 $1 + 2 = 3$ $3 \div 3 = 1$

The numbers above that are divisible by 3 are: 33, 36, 42, 12

Number Theory

Skill 4 - 13G

Divisibility

Circle the numbers below that are divisible by 3. Divisibility Rule: The sum of the digits must be divisible by 3.

1. 321 2. 65 3. 13 4. 425 5. 122 6. 43 7. 15 8. 72
9. 123 10. 513 11. 234 12. 24 13. 128 14. 73 15. 922 16. 762
17. 1,242 18. 813 19. 621 20. 733 21. 524 22. 855 23. 248 24. 152

Circle the numbers below that are divisible by 9. Divisibility Rule: The sum of the digits must be divisible by 9.

25. 18 26. 82 27. 49 28. 24 29. 63 30. 54 31. 922 32. 45
33. 1,566 34. 27 35. 711 36. 825 37. 234 38. 324 39. 1,231 40. 638

Circle the numbers below that are divisible by 2. Divisibility Rule: The ones digit must be even. Examples: (14,72,120, 318)

41. 820 42. 52 43. 37 44. 86 45. 14 46. 19 47. 204 48. 1,020
49. 653 50. 724 51. 941 52. 766 53. 912 54. 433 55. 5,615 56. 208

Circle the numbers below that are divisible by 5. Divisibility Rule: The ones digit must be 0 or 5. Examples: (75,450,625)

57. 12 58. 64 59. 250 60. 365 61. 482 62. 336 63. 675 64. 540
65. 1,345 66. 915 67. 693 68. 20 69. 15 70. 357 71. 940 72. 343

Circle the numbers below that are divisible by 10. Divisibility Rule: The ones digit must be 0. Examples: (30,210,420)

73. 200 74. 367 75. 50 76. 850 77. 45 78. 94 79. 910 80. 700
81. 1,750 82. 846 83. 7,620 84. 649 85. 525 86. 1,000 87. 608 88. 70

Answer Key Skill 4 - 13G

Divisibility

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