**Divisibility Rules**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Number** | **Rule** |
| 1 | all numbers are divisible by 1 |
| 2 | all even numbers are divisible by 2; they end in (0, 2, 4 ,6, 8) |
| 3 | If the sum of the digits is divisible by 3, the original number is divisible by 3 |
| 5 | If the number ends in a 5 or 0, the number is divisible by 5 |
| 6 | If the number is divisible by BOTH 2 and 3, then the number is divisible by 6 |
| 9 | If the sum of the digits is divisible by 9, the original number is divisible by 9 |
| 10 | If the number ends in a 0, then the number is divisible by 10 |

**Divisibility Practice**

Directions: Calculate the sum of the digits for each original number. Circle the numbers that each original number is divisible by.

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| --- | --- | --- | --- |
|  | **Original Number** | **Sum of digits** | **Divisible by** |
| 1. | 4,095 |  | 2 | 3 | 5 | 6 | 9 | 10 |
| 2. | 8,170 |  | 2 | 3 | 5 | 6 | 9 | 10 |
| 3. | 2,685 |  | 2 | 3 | 5 | 6 | 9 | 10 |
| 4. | 534 |  | 2 | 3 | 5 | 6 | 9 | 10 |
| 5. | 609 |  | 2 | 3 | 5 | 6 | 9 | 10 |
| 6. | 29,178 |  | 2 | 3 | 5 | 6 | 9 | 10 |
| 7. | 90,005 |  | 2 | 3 | 5 | 6 | 9 | 10 |
| 8. | 467 |  | 2 | 3 | 5 | 6 | 9 | 10 |
| 9. | 60,201 |  | 2 | 3 | 5 | 6 | 9 | 10 |
| 10. | 3,375 |  | 2 | 3 | 5 | 6 | 9 | 10 |

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| 11. | 76,380 |  | 2 | 3 | 5 | 6 | 9 | 10 |
| 12. | 599,806 |  | 2 | 3 | 5 | 6 | 9 | 10 |
| 13. | 492,570 |  | 2 | 3 | 5 | 6 | 9 | 10 |
| 14. | 12,685 |  | 2 | 3 | 5 | 6 | 9 | 10 |
| 15. | 64,423 |  | 2 | 3 | 5 | 6 | 9 | 10 |
| 16. | 738 |  | 2 | 3 | 5 | 6 | 9 | 10 |
| 17. | 9,999 |  | 2 | 3 | 5 | 6 | 9 | 10 |
| 18. | 501,105 |  | 2 | 3 | 5 | 6 | 9 | 10 |
| 19. | 800 |  | 2 | 3 | 5 | 6 | 9 | 10 |
| 20. | 1,256 |  | 2 | 3 | 5 | 6 | 9 | 10 |

**Divisibility Challenge!**

1. If a number is divisible by both 2 and 5, what other number must it also be divisible by? \_\_\_\_\_\_

2. If a number is divisible by 6, what other numbers must it also be divisible by? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Give TWO examples of a number that is divisible by 3, but NOT 9. Support your answer with evidence.

4. Give TWO examples of a number that is divisible by 10, 3, and 6. Support your answer with evidence.

5. Give TWO examples of a number that is divisible by 2, 6, and 7. Support your answer with evidence.

6. Give an example of a number that is divisible by 5, 6, 7, and 9. Support your answer with evidence.

7. Give an example of a number that is divisible by **five numbers** 1-10.

8. Give an example of a number that is divisible by **six numbers** 1-10.