Name _____ Date _____ Class _____

SKILL 2: Primes and Composites

Every whole number greater than 1 is either a **prime number** or a **composite number**. A prime number has exactly two factors: itself and 1. A composite number has more than two factors. The numbers 0 and 1 are neither prime nor composite.

Example 1

Is 48 a prime number or a composite number?

The factors of 48 are 1, 2, 3, 4, 6, 8, 12, 16, 24, and 48.
Since there are more than two factors of 48, it is a composite number.

Example 2

Is 57 prime or composite?

Use divisibility rules to decide whether 57 has factors other than 1 and 57.
Is 57 divisible by 2? No; it does not end in 0, 2, 4, 6, or 8.
Is 57 divisible by 3? Yes; 5 + 7 = 12, and 12 is divisible by 3.
57 is composite.

Guided Practice

Tell whether the given number is prime or composite. The factors that follow the number should help you decide.

1. 25: 1, 5, 25

_____

2. 83: 1, 83

_____

3. 54: 1, 2, 3, 6, 9, 18, 27, 54

_____

4. 68: 1, 2, 4, 17, 34, 68

_____

5. Use divisibility rules to help you determine whether 89 is prime or composite.

a. Is 89 divisible by 2? _____ **b.** Is 89 divisible by 3? _____

c. Is 89 divisible by 5? _____ **d.** Is 89 divisible by 7? _____

e. Is 89 divisible by 8? _____ **f.** Is 89 divisible by 9? _____

g. Is 89 prime or composite? _____

6. List the prime numbers less than 20. _____

7. List the composite numbers less than 20. _____

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SKILL 2: Practice

Tell whether the given number is prime or composite. The factors that follow the number should help you decide.

1. 92: 1, 2, 4, 23, 46, 92 _____

2. 121: 1, 11, 121 _____

3. 73: 1, 73 _____

4. 129: 1, 3, 43, 129 _____

5. 52: 1, 2, 4, 13, 26, 52 _____

6. 55: 1, 5, 11, 55 _____

7. 29: 1, 29 _____

8. 57: 1, 3, 19, 57 _____

9. 63: 1, 3, 7, 9, 21, 63 _____

Tell whether each number is prime or composite.

10. 93 _____

11. 145 _____

12. 79 _____

13. 280 _____

14. 69 _____

15. 59 _____

16. 102 _____

17. 43 _____

18. 86 _____

19. 123 _____

Solve.

20. The Brentwood Orchestra has 161 members. Is the number of members prime or composite? _____

21. The local Hiking Trails and Open Spaces organization has 49 members. If a committee of the organization has a prime number of members, and that number is a factor of 49, then how many members are on the committee? _____

22. Which of the following is a prime number? *Skill 2*

A 91 **C** 49
B 75 **D** 97

23. Which of the following is not divisible by 4? *Skill 1*

F 1,264 **H** 1,332
G 414 **J** 748