

Lesson 16: Even and Odd Numbers

Classwork

Exercises 1–5

Circle ALL the numbers that are factors of the given number. Complete any necessary work in the space provided.

1. 2,838 is divisible by

3

9

4

Explain your reasoning for your choice(s).

2. 34,515 is divisible by

3

9

5

Explain your reasoning for your choice(s).

3. 10,534,341 is divisible by

3

9

2

Explain your reasoning for your choice(s).

4. 4,320 is divisible by

3

9

10

Explain your reasoning for your choice(s).

5. 6,240 is divisible by

3

9

8

Explain your reasoning for your choice(s).

Lesson Summary

Adding:

- The sum of two even numbers is even.
- The sum of two odd numbers is even.
- The sum of an even number and an odd number is odd.

Multiplying:

- The product of two even numbers is even.
- The product of two odd numbers is odd.
- The product of an even number and an odd number is even.

Lesson Summary

To determine if a number is divisible by 3 or 9:

- Calculate the sum of the digits.
- If the sum of the digits is divisible by 3, the entire number is divisible by 3.
- If the sum of the digits is divisible by 9, the entire number is divisible by 9.

Note: If a number is divisible by 9, the number is also divisible by 3.

Problem Set

Problems 1-3: Without solving, tell whether each sum or product is even or odd. Explain your reasoning.

1. $346 + 721$
2. $4,690 \times 141$
3. $1,462,891 \times 745,629$
4. Is 32,643 divisible by both 3 and 9? Why or why not?
5. Write a 4-digit number that is divisible by both 5 and 9. Explain how you know this number is divisible by 5 and 9.