

# Investigating Divisibility by 3, 6, and 9

NCTM Standards 1, 2, 7, 8

**Solve the Mystery Number Puzzles.**

Clues

Workspace

**1 Puzzle A**

- Multiple of 5
- Divisible by 3
- Greater than 495, but less than 525

--	--	--

**2 Puzzle B**

- Divisible by 9
- Multiple of 2
- Greater than 312, but less than 336

--	--	--

**3 Puzzle C**

- Divisible by 6
- Multiple of 7
- Greater than 224, but less than 266

--	--	--



- 4** Matt says that every number that is divisible by 3 is also divisible by 6. Do you agree or disagree? Explain.

---



---



---

5 Is the number divisible by 3? Write *yes* or *no*.

63 \_\_\_\_\_

460 \_\_\_\_\_

1,003 \_\_\_\_\_

6 Is the number divisible by 9? Write *yes* or *no*.

171 \_\_\_\_\_

472 \_\_\_\_\_

1,323 \_\_\_\_\_

7 Is the number divisible by 6? Write *yes* or *no*.

102 \_\_\_\_\_

303 \_\_\_\_\_

870 \_\_\_\_\_

201 \_\_\_\_\_

558 \_\_\_\_\_

735 \_\_\_\_\_

8 Write other numbers that are divisible by 3, 6, and 9.

Divisible by 3

Divisible by 6

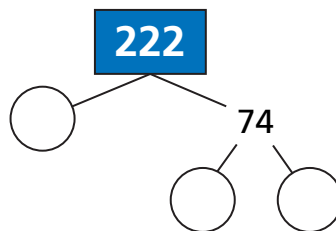
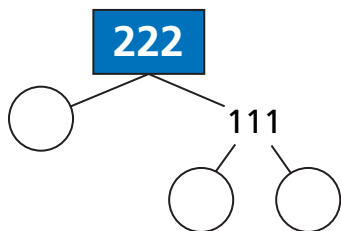
Divisible by 9

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

9 Fill in the trees in different ways.  
Prime factors must be in the circles.



10 **Challenge** Write *yes* or *no* and tell why.

Can 300 paper clips be divided among

3 students? \_\_\_\_\_

Why? \_\_\_\_\_

6 students? \_\_\_\_\_

Why? \_\_\_\_\_

\_\_\_\_\_

9 students? \_\_\_\_\_

Why? \_\_\_\_\_