

- Write all the possibilities for the missing digit.
  - a) 136 is divisible by 10, 5, and 2.
  - b) 456 is divisible by 2, but not by 10 or 5.
  - c) 786 has a remainder of 2 when divided by 5.
  - d) 943 is divisible by 5, but not by 10 or 2.
- 9. Give an example of a four-digit number that matches each description, or explain why no four-digit number matches.
  - a) an even number divisible by 3
  - b) a number divisible by 6 and by 5
  - c) a number divisible by 6 and by 10

4. Write a four-digit number that is divisible by 5, but not by 10. Explain how you know.

- 7. a) Is your year of birth divisible by 10, 5, or 2? Explain.  
 b) How old will you be in the next year that is divisible by 10, 5, and 2?
- 8. a) Which numbers between 1000 and 1100 are divisible by 20?  
 b) Use your answer in part (a) to create a divisibility rule for 20. Use a four-digit number as an example to help you explain your rule.

2. Each number below is divisible by 9. Identify all the possibilities for the missing digit.

- a) 533      b) 678      c) 306      d) 327

6. A three-digit number is divisible by 10, and its middle digit is 5. Can you determine what the number is if you know that it is also divisible by 3? What if it is divisible by 9? Show your work.

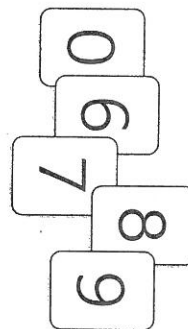
8. Create a four-digit number for each description. Explain how you created one of the numbers.

- a) a number not divisible by 3 and not divisible by 2
- b) an even number divisible by 9
- c) a number divisible by 3 and 10
- d) a number divisible by 9 and 5

3. Use a divisibility rule to decide if each number is divisible by 6.

- a) 758      b) 4908      c) 75 084      d) 64 856

8. Explain why  $14 \overline{) 13}$  cannot be divisible by 6 for any possible hundreds digit.



6. How can you arrange these five number cards to create the greatest number divisible by 4 and 8? Explain your strategy.

2. Each four-digit number below is divisible by 4. Identify all the possibilities for each missing digit.
- a) 533      b) 167      c) 306      d) 324