

Name \_\_\_\_\_

# Patterns with Decimals

**I Can** use addition or subtraction to describe a pattern or create a sequence with decimals.

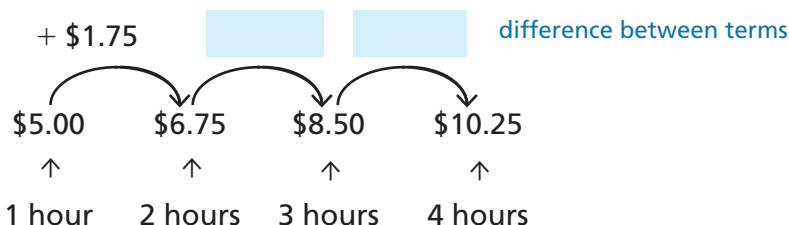


## UNLOCK the Problem Real World

A state park rents canoes for guests to use at the lake. It costs \$5.00 to rent a canoe for 1 hour, \$6.75 for 2 hours, \$8.50 for 3 hours, and \$10.25 for 4 hours. If this pattern continues, how much should it cost Jason to rent a canoe for 7 hours?

A **sequence** is an ordered list of numbers. A **term** is each number in a sequence. You can find the pattern in a sequence by comparing one term with the next term.

**STEP 1** Write the terms you know in a sequence. Then look for a pattern by finding the difference from one term in the sequence to the next.



**STEP 2** Write a rule that describes the pattern in the sequence.

Rule: \_\_\_\_\_

**STEP 3** Extend the sequence to solve the problem.

\$5.00, \$6.75, \$8.50, \$10.25, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

So, it should cost \_\_\_\_\_ to rent a canoe for 7 hours.

Florida's B.E.S.T.

- Algebraic Reasoning 5.AR.3.1
- Number Sense & Operations 5.NSO.2.3
- Mathematical Thinking & Reasoning  
MTR.2.1, MTR.3.1, MTR.4.1, MTR.5.1, MTR.6.1



- **MTR** How can you write an expression to find the next term if  $x$  is the last term in the pattern?

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**Example** Write a rule for the pattern in the sequence.  
Then find the unknown terms in the sequence.

29.6, 28.3, 27, 25.7, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, 20.5, 19.2

**STEP 1** Look at the first few terms in the sequence.

**Think:** Is the sequence increasing or decreasing  
from one term to the next?

**STEP 2** Write a rule that describes the pattern in the sequence.

What operation can be used to describe a sequence that increases?

\_\_\_\_\_

What operation can be used to describe a sequence that decreases?

\_\_\_\_\_

Rule: \_\_\_\_\_

**STEP 3** Use your rule to find the unknown terms.  
Then complete the sequence above.

- Explain how you know whether your rule for a sequence  
would involve addition or subtraction. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Try This!

- A** How can you write the rule for the pattern using an  
expression? Use the rule to find the unknown term.

65.9, 65.3, \_\_\_\_\_, 64.1, 63.5, 62.9

Rule: \_\_\_\_\_

- B** Write the first four terms of the sequence.

Rule: start at 0.35, add 0.15

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_