

2.1 Terms of a Sequence

Warm-Up

Evaluate each algebraic expression.

$$a = 5, \quad b = -2, \quad c = 1$$

$$3a + 8$$

$$12 - 5b$$

$$9 - 2(a + c)$$

Main Topic Terms of a Sequence



Johnny's math teacher announced that the school is planning a field trip to Orlando, Florida. He will have to raise at least \$200 to cover several expenses if he wants to participate. Johnny has several options to raise funds.

Option 1 – Mowing Yards

Mow his neighbors' yards and charge \$8 per yard.

Table	Formula
<p>a. How much will he make for mowing 5 yards?</p> <p>c. How many yards does he need to mow to raise at least \$200?</p>	<p>b. How much will he make for mowing 12 yards? (Hint: Use the formula)</p> <p>d. If he is allowed by his parents to mow 3 yards per day, how many days will it take him to raise at least \$200?</p>



Option 2 – Working at a Restaurant

Work at a restaurant making \$5 per hour.	
Table	Formula
a. How much will he make for working 7 hours?	b. How much will he make for working 10 hours? (Hint: Use the formula)
c. How many hours does he need to work to raise at least \$200?	d. If he is allowed by his parents to work 4 hours during the weekend, how many weekends will it take him to raise at least \$200?

Option 3 – Working at a Car Wash

Work at a car wash making \$6 per car with a guaranteed total tip of \$45.	
Table	Formula
a. How much will he make for washing 5 cars?	b. How much will he make for washing 15? (Hint: Use the formula)
c. How many cars does he need to wash to raise at least \$200?	d. If the car wash place is open on weekdays and he can only wash 2 cars per day, how many weeks will it take him to raise at least \$200?

Quick Math

Find the next three terms.

a. 4, 8, 12...

b. 15, 30, 45...

c. 21, 42, 84...

I made \$7, \$14, and \$28 for 3 days, can you help figure out the total amount I would be making for 5 days?



Find the missing terms of the sequence then find the sum.

1	2	3	4	5	6	7	Sum
7		21			42		

1	2	3	4	5	6	7	Sum
1			16			49	

1	2	3	4	5	6	7	Sum
	12			30		42	

The function in the middle represents the value of the n th term in a sequence.

What are the first 5 terms?	What is the sum of the first 5 terms?
$f(n) = 3n - 5$	
What is the product between the 2 nd and 4 th terms?	What is the difference when the 3 rd term is subtracted from the 5 th term?

What are the first 5 terms?	What is the sum of the first 5 terms?
$t(n) = 4 - 2n$	
What is the quotient between the 2 nd and 4 th terms?	What is the difference when the 3 rd term is subtracted by the 5 th term?

What are the first 5 terms?	What is the sum of the first 5 terms?
$v(n) = n^2 + 1$	
What is the product between the square of the 2 nd term and the square of the 3 rd term?	What is the difference when the 4 th term is subtract from the 1 st term?



Need Help?

Stickies Gallery

Copy the equation, show complete work, and box the final answer on each sticky note.
Post the sticky notes next to the questions across the classroom.

$$a(n) = 5n + 3$$

What is the sum of
the 2nd and 4th
terms?

$$t(n) = 7 - 2n$$

What is the product
between the 3rd
and 4th terms?

$$h(n) = 5n + 3$$

What is the
difference between
the 3rd and 1st
terms?

3, 12, 21, 30 ...

What is the formula
of the sequence?

225, 180, 135, 90 ...

What is the sum of
the first 5 terms?

21, 36, 51, 66 ...

What are the next
3 terms?

End-of-Course Prep