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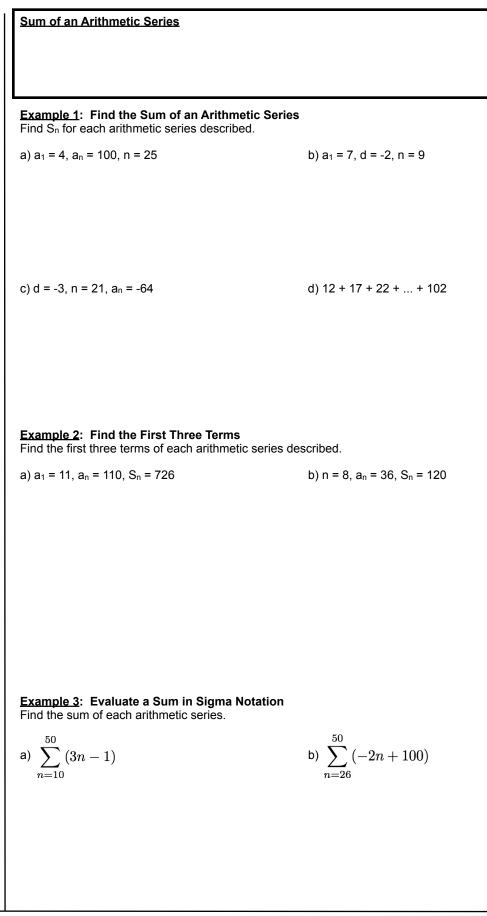
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Date	Test/Project	Score

11.1 Arithmetic Sequences

·		
<u>nth Term (</u>	<u>of an Arithm</u>	etic Sequence
		a to find a term in a sequence given the first term and the common difference OR
-		some successive terms. rticular Term
Find the in	dicated term	of each arithmetic sequence.
a) a ₁ = -4,	d = -9, n = 20	b) a ₁₂ for 8, 3, -2,
c) The tab	le helow show	ws typical costs for a construction company to rent a crane for 1-4 months. If the
sequence	ce continues,	will the company be able to afford the crane rental for a job that is expected to last ve a budget of \$350,000 for crane rental?
Months	Cost (\$)	
1	75,000	
2	90,000	
3		
	105,000	
4	120,000	
	2: The nth T	
		the nth term of theb) Complete: 68 is theth term of the arithmetic:: -26, -15, -4, 7,sequence -2, 3, 8,
Example (3: Find Arith	■ The terms between any two nonsuccessive terms of an arithmetic sequence
Find the a	rithmetic mea	ans in each sequence.
a) 10,	,, -8	b) 3,,,,, 27

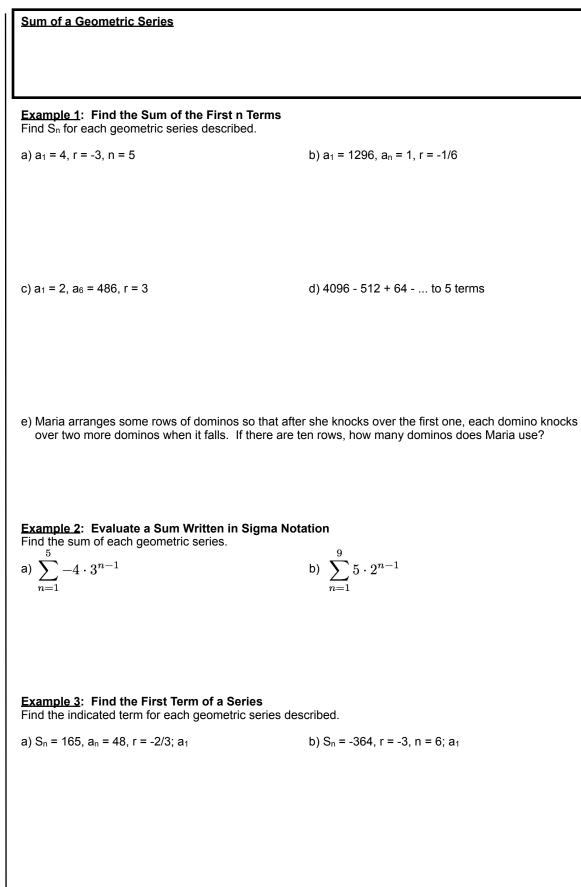
11.2 Arithmetic Series



11.3 Geometric Sequences

e b) Find the first 5 terms of the geometric sequence a ₁ = -3
b) Find the first 5 terms of the geometric sequence a ₁ = -3
d) a₄ = 16, r = 0.5, n = 8
value of the investment increases by 10%. How m s?
equence 18, -3, 1/2, -1/12,
b) 32,,,, 1

11.4 Geometric Series



11.5 Infinite Geometric Series

Sum of an Infinite Geometric Series Example 1: Sum of an Infinite Geometric Series Find the sum of each infinite geometric series, if it exists. a) a = 36, r = 2/3 b) 16 + 24 + 36 + ... c) Altovese's grandfather clock is broken. When she sets the pendulum in motion by holding it against the side of the clock and letting it go, it swings 24 centimeters to the other side, then 18 centimeters back, then 13.5 centimeters, and so on. What is the total distance that the pendulum swings before it stops? Example 2: Infinite Series in Sigma Notation Find each sum of each infinite geometric series, if it exists. b) $\sum_{n=1}^{\infty} 35 \left(-\frac{3}{4}\right)^{n-1}$ a) $\sum 6(-0.4)^{n-1}$ n=1Example 3: Write a Repeating Decimal as a Fraction Write each repeating decimal as a fraction. a) 0.123 b) 0.0123 c)1.234

11.6 Recursion and Special Sequences

