

12 Sequences and Series



P.4.B

12.1 Define and Use Sequences and Series

P.4.A

12.2 Analyze Arithmetic Sequences and Series

P.4.A

12.3 Analyze Geometric Sequences and Series

P.4.D

12.4 Find Sums of Infinite Geometric Series

a.1

12.5 Use Recursive Rules with Sequences and Functions

Before

In previous chapters, you learned the following skills, which you'll use in Chapter 12: solving equations, solving systems of equations, and performing function composition.

Prerequisite Skills

VOCABULARY CHECK

Copy and complete the statement using $f(x) = \frac{1}{x}$ and $g(x) = 4x + 2$.

1. The **domain** of $f(x)$ is ?.
2. The **range** of $g(x)$ is ?.
3. The **composition** $f(g(x))$ is equal to ?.

SKILLS CHECK

Solve the equation. Check your solution. (Review p. 18 for 12.2.)

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|-------------------|------------------------|----------------------|
| 4. $7x + 3 = 31$ | 5. $9 = 2x - 7$ | 6. $14 = -3x + 8$ |
| 7. $10 - 3x = 28$ | 8. $11x + 9 = 3x + 17$ | 9. $2x + 3 = -6 - x$ |

Solve the system using any algebraic method. (Review p. 160 for 12.3.)

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|--------------------------------------|-------------------------------------|--|
| 10. $3x + y = 0$
$-2x - 4y = -30$ | 11. $2x - 2y = 10$
$x + y = -10$ | 12. $4x - 5y = 25$
$0.5x + 1.5y = 18.5$ |
|--------------------------------------|-------------------------------------|--|

Let $f(x) = 2x - 1$ and $g(x) = -2x^{-1}$. Perform the indicated operation and state the domain. (Review p. 428 for 12.5.)

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|---------------|---------------|---------------|
| 13. $f(g(x))$ | 14. $f(f(x))$ | 15. $g(g(x))$ |
|---------------|---------------|---------------|



TEXAS

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Prerequisite skills practice at classzone.com