

2022 Algebra 1 Chapter 4 Point Slope Form, Arithmetic Sequence and Piecewise function

Lesson 004 | Algebra I | Lines and slopes • Arithmetic sequences and series • Functions, composition and piecewise rules

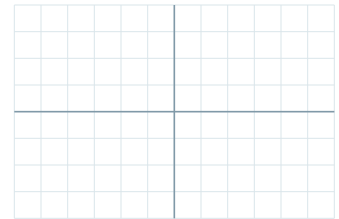
<https://www.youtube.com/watch?v=1bCyvMgXrrk>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

Write point-slope and slope-intercept equations of the line through (5, 11) with slope 4. Sketch it.

**02**

An arithmetic sequence starts at 10 with common difference 8. Find term 10 and the sum of the first 10 terms.

03

Let $f(x) = 6x + 4$ and $g(x) = x^2 - 13$. Find $(f \circ g)(x)$ and $(g \circ f)(7)$.

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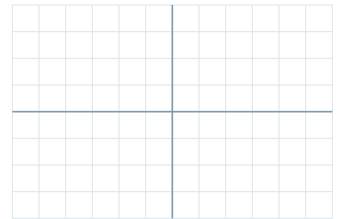
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Name: _____ Date: _____ Show your reasoning.

04

Write point-slope and slope-intercept equations of the line through (4, 5) with slope 4. Sketch it.

**05**

An arithmetic sequence starts at 13 with common difference 3. Find term 9 and the sum of the first 9 terms.

06

Let $f(x) = 5x + 7$ and $g(x) = x^2 - 8$. Find $(f \circ g)(x)$ and $(g \circ f)(3)$.

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01

Write point-slope and slope-intercept equations of the line through (5, 11) with slope 4. Sketch it.

$y - 11 = 4(x - 5)$; $y = 4x + (-9)$. Plot (5, 11) and (6, 15).

02

An arithmetic sequence starts at 10 with common difference 8. Find term 10 and the sum of the first 10 terms.

$a_m = 10 + (m-1)8$; $a_{10} = 82$. $S_m = m(a_1 + a_m)/2$, giving $S_{10} = 460$.

03

Let $f(x) = 6x + 4$ and $g(x) = x^2 - 13$. Find $(f \circ g)(x)$ and $(g \circ f)(7)$.

$f(g(x)) = 6(x^2 - 13) + 4 = 6x^2 - 74$. $f(7) = 46$, so $g(f(7)) = 2103$.

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04

Write point-slope and slope-intercept equations of the line through (4, 5) with slope 4. Sketch it.

$y - 5 = 4(x - 4)$; $y = 4x + (-11)$. Plot (4, 5) and (5, 9).

05

An arithmetic sequence starts at 13 with common difference 3. Find term 9 and the sum of the first 9 terms.

$a_m = 13 + (m-1)3$; $a_9 = 37$. $S_m = m(a_1 + a_m)/2$, giving $S_9 = 225$.

06

Let $f(x) = 5x + 7$ and $g(x) = x^2 - 8$. Find $(f \circ g)(x)$ and $(g \circ f)(3)$.

$f(g(x)) = 5(x^2 - 8) + 7 = 5x^2 - 33$. $f(3) = 22$, so $g(f(3)) = 476$.