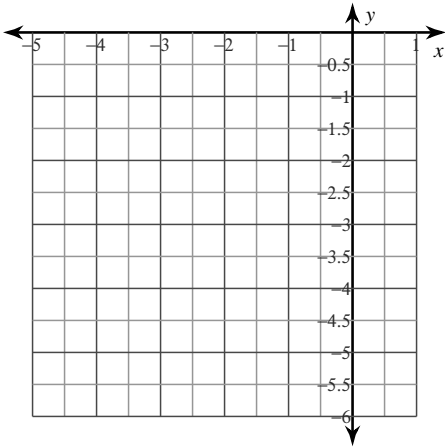


Quiz 3 Study Guide

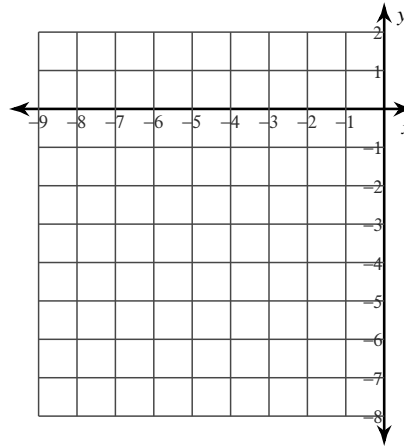
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Sketch the graph of each function.

1) $y \geq -(x + 3)^2 - 1$



2) $y > -2(x + 4)^2 + 1$

**State if each sequence is arithmetic.**

3) 4, 16, 36, 64, ...

4) -7, -5, -2, 2, ...

Find the common difference.

5) 3, -3, -9, -15, ...

6) 15, -185, -385, -585, ...

Find the three terms in the sequence after the last one given.

7) 10, 7, 4, 1, ...

8) -14, -114, -214, -314, ...

Find the term named in the problem.

9) -2, -202, -402, -602, ...

Find a_{40}

10) -26, 4, 34, 64, ...

Find a_{34} **Find the explicit formula.**

11) 30, 34, 38, 42, ...

12) -39, -36, -33, -30, ...

13) 18, 8, -2, -12, ...

14) -7, 93, 193, 293, ...

Given the explicit formula for an arithmetic sequence find the first five terms.

15) $a_n = -23 + 4n$

16) $a_n = 6n$

Given the explicit formula for an arithmetic sequence find the term named in the problem.

17) $a_n = -23 - 8n$
Find a_{34}

18) $a_n = 47 - 10n$
Find a_{24}

Evaluate each arithmetic series described.

19) $a_1 = 12, a_n = 111, n = 12$

20) $a_1 = -2, a_n = 22, n = 13$

21) $\sum_{n=2}^{10} (8n - 9)$

22) $\sum_{n=5}^{12} (6n - 4)$

Find the discriminant of each quadratic equation then state the number and type of solutions.

23) $2v^2 - 9v + 9 = 0$

24) $2a^2 + 8a - 10 = 0$

25) $-8k^2 + 3k - 4 = 3$

26) $3p^2 + 8p + 4 = 4$

27) $-2p^2 - 3p = 6$

28) $9k^2 = -8 - 2k$

29) $-4n^2 - n - 12 = -6n^2 - 2$

30) $-4x^2 + 2 = 6x + 2$

FIND the VERTEX of each and CONVERT to Vertex Form. State the DOMAIN and RANGE.

31) $y = -x^2 - 16x - 59$

32) $y = x^2 + 10x + 22$

CONVERT each to Standard Form. State the DOMAIN and RANGE

33) $y = -(x + 8)^2 - 1$

34) $y = -3(x + 6)^2 - 4$