

Unit 1 Desmos Test Key

1) $a_1 = 5(1) - 12 = 5 - 12 = -7$

$$a_n = a_{n-1} + 5; a_1 = -7$$

2) $a_n = a_1 + d(n-1)$

$$a_n = -7 - 3(n-1)$$

$$a_n = -7 - 3n + 3$$

$$a_n = -3n - 4$$

3) Function – It passes the vertical line test

4) Relation – The 4 repeats as an x coordinate, but the y value doesn't repeat with it

5) Standard form: $5x^3 + 3x - 2$

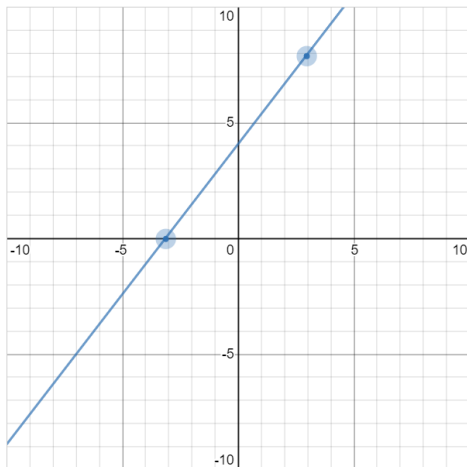
Leading Coefficient: 5

Constant: -2

Degree: 3rd

Name by Number of Terms: *Trinomial*

6)



$$7) 7x^2 - 8x + 23$$

8) Cubic, Trinomial

$$9) (-\infty, \infty)$$

$$10) \begin{array}{l} x \rightarrow -\infty, f(x) \rightarrow \infty \\ x \rightarrow \infty, f(x) \rightarrow -\infty \end{array}$$

$$11) a_n = -\frac{3}{4}n + \frac{13}{4}$$

$$12) 5, 4.6, 4.2, 3.8$$

13) Explicit equation:

$$a_n = a_1 + d(n-1)$$

$$a_n = 5 + 3(n-1)$$

$$a_n = 5 + 3n - 3$$

$$a_n = 3n + 2$$

Day 14:

$$a_{14} = 3(14) + 2 = 42 + 2 = 44$$

$$14) f(-2) = 4(-2)^2 - 3(-2) + 7 = 4(4) - 3(-2) + 7 = 16 + 6 + 7 = 29$$

$$g(3) = -5(3) + 13 = -15 + 13 = -2$$

$$f(-2) + g(3) = 29 - 2 = 27$$

15) $4(-5x + 13) - 2(4x^2 - 3x + 7)$

$$-20x + 52 - 8x^2 + 6x - 14$$

$$-8x^2 - 14x + 38$$

16) Equation: $y = -\frac{2}{3}x + 4$

Domain: $(-\infty, \infty)$

Range: $(-\infty, \infty)$

Increasing: Null, N/A, or \emptyset

Decreasing: $(-\infty, \infty)$

y-int: (0, 4)

x-int: (6, 0)

As x approaches $-\infty$, f(x) approaches: ∞

As x approaches ∞ , f(x) approaches: $-\infty$

Zero: $x = 6$

Rate of Change: $-\frac{2}{3}$

$f(-3) = : 6$

$f(?) = 2 : 3$