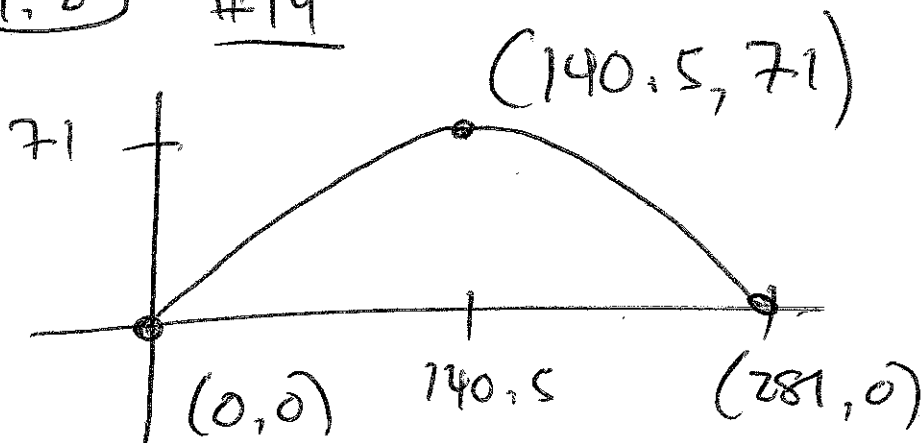


1.2

#14



$x=0$  and  $x=281$   
are the zeros.

$$\therefore f(x) = a(x-0)(x-281)$$

simplified  $f(x) = ax(x-281)$

then, the vertex is  $(140.5, 71)$

sub in and solve for "a".

$$71 = f(140.5) = a(140.5)(140.5 - 281)$$

$$71 = f(140.5) = a(140.5)(-140.5)$$

$$71 = a(-19740.25)$$

$$a = \frac{71}{-19740.25}$$

$$a = -0.0036$$

$f(x) = -0.0036x(x-281)$

1.2 #15

when  $a = +1$   
base step = 1, 3, 5, ...

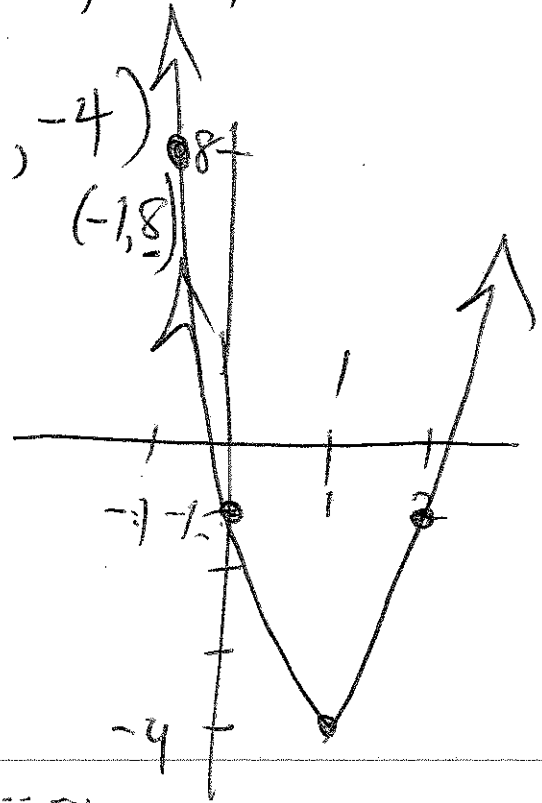
a)  $y = f(x) = 3(x - 1)^2 - 4$

✓ Vertex (1, -4)

✓  $a = +3$

✓ (2, -1)

✓ (0, -1)



b) new step.

$$= 1(3), 3(3), 5(3), 7(3), \dots$$

$$= 3, 9, 15, 21, \dots$$

b-1)  $f(-1)$  is a pt on the parabola.

b-2) either using the step pattern

Solve  $f(-1)$

$$f(-1) = 3(-1-1)^2 - 4$$

$$= 3(4) - 4$$

$$f(-1) = 8 \quad \therefore (-1, 8)$$

1.2) #15 c ii)

$$f(x) = 3(x-1)^2 - 4$$

$$\text{ii) } 2f(3) - 7$$

first solve for  $f(3)$

$$f(3) = 3(3-1)^2 - 4$$

$$= 3(4) - 4$$

$$= 8$$

$$f(3) = 8$$

then solve  $2f(3) - 7$

$$= 2(8) - 7$$

$$= 16 - 7 = \underline{\underline{9}}$$

1.2 #17.

a)  $f(a) = 3a + 1$

$$g(a) = 2 - a$$

$$\therefore f(a) = g(a)$$

$$\therefore 3a + 1 = 2 - a$$

then solve for "a".

$$3a + 1 = 2 - a$$

$$3a + a = 2 - 1$$

$$4a = 1$$

$$a = \frac{1}{4}$$