

5.2.2 # 56-58, 68-70

15-56) As toolkit

15-57)  $t(n) = -4, -1, 2, 5, \dots$

Common difference =  $d$

$d = 3$

c.)  $t(n) = 42$  ?

$42 = 3n - 7$

$\frac{49}{3} = \frac{3n}{3}$

$16\frac{1}{3} = n$

No, this is not part of the sequence because it is not a whole term #.

a.)  $t(1) = -4$   
 $t(0) = -7$

b.)  $t(n) = 3n - 7$   
 ↑                    ↑  
 output            input

$-4 = 3n - 7$

$\frac{3}{3} = \frac{3n}{3}$   
 $1 = n$

d.)  $f(x) = 3x - 7$

$f(x) = 42$  ?

Yes, 42 could be  $f(x)$  because functions are continuous and include decimals + fractions.

e.)  $t(n)$

$f(x)$

• graph discrete

• graph continuous

• Domain: positive integers

• Domain:  $\mathbb{R}$

• Sequences

• Functions

15-58)  $t(5) = 11, t(50) = 371$

$d = \frac{371 - 11}{50 - 5} = \frac{360}{45} = 8$

$11 = 8(5) + t(0)$   
 $11 = 40 + t(0)$   
 $-40 \quad -40$   
 $1 - 29 = t(0)$

$y = m \cdot x + b$   
 $t(n) = dn + t(0)$

Equation

$t(n) = 8n - 29$