Selling Credit Cards: Companies that offer credit cards pay the people who collect applications for those cards and the people who contact current cardholders to sell them additional financial services

How are patterns in tables of values, graphs, symbolic rules, and problem conditions for linear functions related to each other?

1. For collecting credit card applications, Barry's daily pay B is related to the number of applications he collects n by the rule $B = 5 + 10n$.

a.   Use the function rule to complete this table of sample (n, B) values:

Number of Applications	0	1	2	3	4	5	10	20	50
Daily Pay (in dollars)	5	15	25	35	45	55	105	205	505

$B = 5 + 10n$

Start ↑   make ↑
$10 per application

b.   Graph the data on a piece of graph paper.

$B = 5 + 10(0)$ $5 + 10(1)$

c.   i)   How much will Barry earn on a day when he does not collect any credit card applications?

$5

ii)   How can this information be seen in the rule $B = 5 + 10n$?

The # w/o variable → constant

iii)   How can this information be seen In the table of sample (n, B) values?

$n = 0$ (Starting point)

iv)   How can this information be seen In the graph?

y-intercept

d.   i)   How much additional money does Barry earn for each application he collects? → $10

ii)   How can this information be seen in the rule $B = 5 + 10n$?

the # w/variable
coefficient

iii)   How can this information be seen in the table?

rate of change per application

iv)   How can this information be seen in the In the graph?

Slope

e.   Write a recursive rule for the situation described above.

$a_n = a_{n-1} + 10$

$a_0 = 5$