

1. Complete the tables below by finding a number pattern:

a)

Step	1	2	3	4	5
Value	3	6	9	12	15

b)

Step	1	2	3	4	5
Value	0.5	1	1.5	2	2.5

c)

Step	5	10	15	20	25
Value	10	20	30	40	50

d)

Step	2	4	6	10	13
Value	3	6	9	15	19.5

e)

Step	5	10	15	20	23
Value	2.5	5	7.5	10	11.5

2. For each of the number patterns above:

b) Find a rule in words that describes the relationship between the Step number and the Value:

- a) *Value equals three times step number*
- b) *Value equals 0.5 times step number*
- c) *Value equals 2 times step number*
- d) *Value equals 1.5 times step number*
- e) *Value equals 0.5 step number*

c) Find a rule using symbols that describes the relationship between the Step number and the Value:

a) $v = 3 \times s$

b) $v = 0.5 \times s$

c) $v = 2 \times s$

d) $v = 1.5 \times s$

e) $v = 0.5 \times s$

3. Use the rule

Value is equal to two and a half times the Step number to complete the table below:

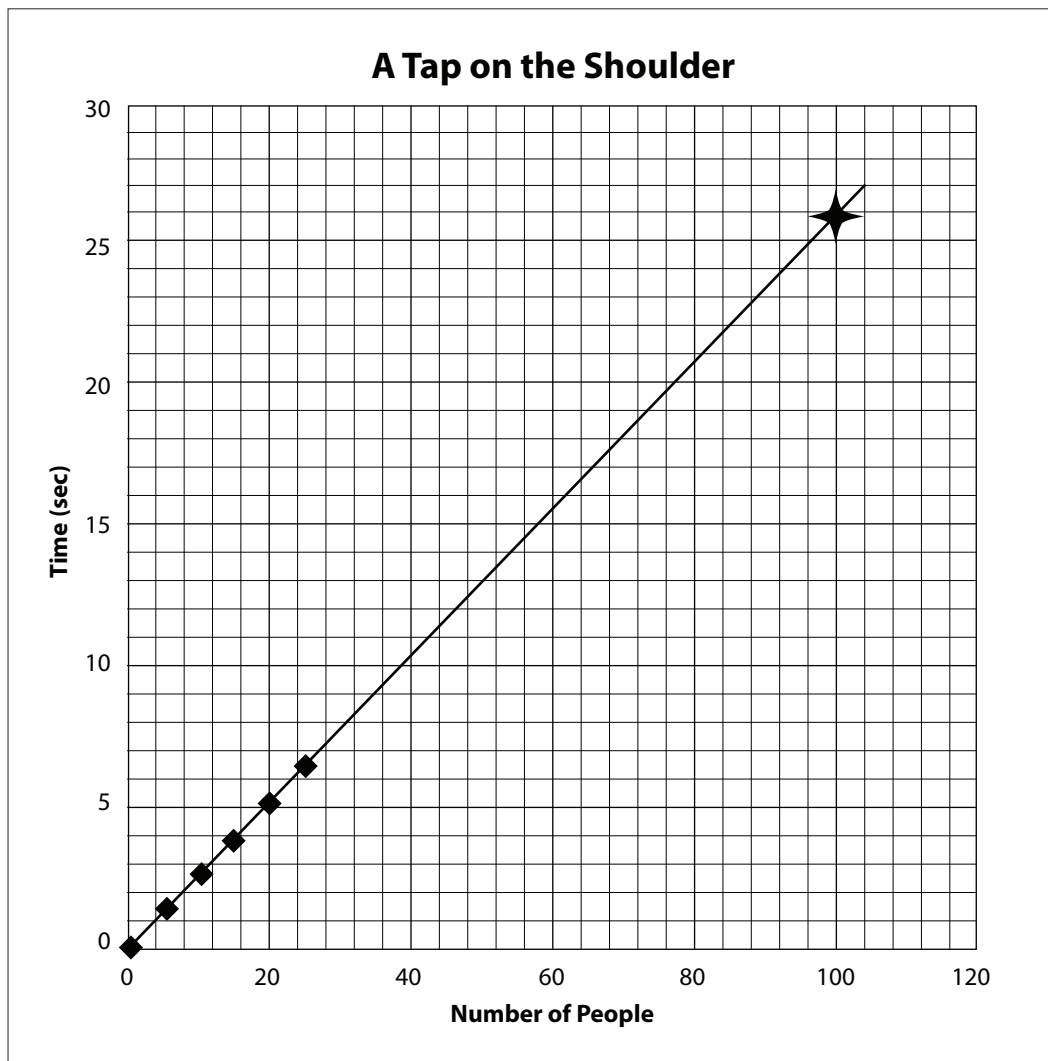
Step	2	4	5	11	21
Value	5	10	12.5	27.5	52.5

4. Describe how you would enter a rule into the TI-15 calculator that would calculate the rule:

Value equals three times the step value plus two

Op1 $\times 3 + 2$ Op1

5. a) Graph this data on the grid below:



b) Use this graph to predict the amount of time it would take to pass on a tap to 100 people:

Approximately 26 seconds

c) Find a rule in words and symbols that describes the relationship between the number of students in a line and the time it takes to pass on a tap:

Time equals 0.25 times the number of people plus 0.2; $T = 0.25 \times P + 0.2$

- d) Use the rule you found in c to make a prediction of how long it would take to pass a tap on to 100 people:**

$$\text{Time} = 0.25 \times 100 + 0.2 = 25.2 \text{ sec}$$

- e) Discuss how close this is to the prediction you made using a graph.
Write down any reasons for any difference between these predictions:**

The prediction is very close. The minor difference can be put down to the size of the scale of the graph paper. In a real-life situation there may be some variation due to differences between people when conducting the activity.