Student Worksheet 1/2 Solutions
TI-15 Explorer™: A Tap on the Shoulder

WS

Worksheet 1 and 2 do not have specific solutions as it will depend on the actual data recorded as students go through the Shoulder Tapping activity.

Hints and likely answers for the worksheets have been built into the Teacher Notes section.

The Assessment Task has questions very similar to the worksheet questions and specific answers have been included for the Assessment Task.

Assessment Task Solutions
TI-15 Explorer™: A Tap on the Shoulder

ATS

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) $v = 0.5 \times s$

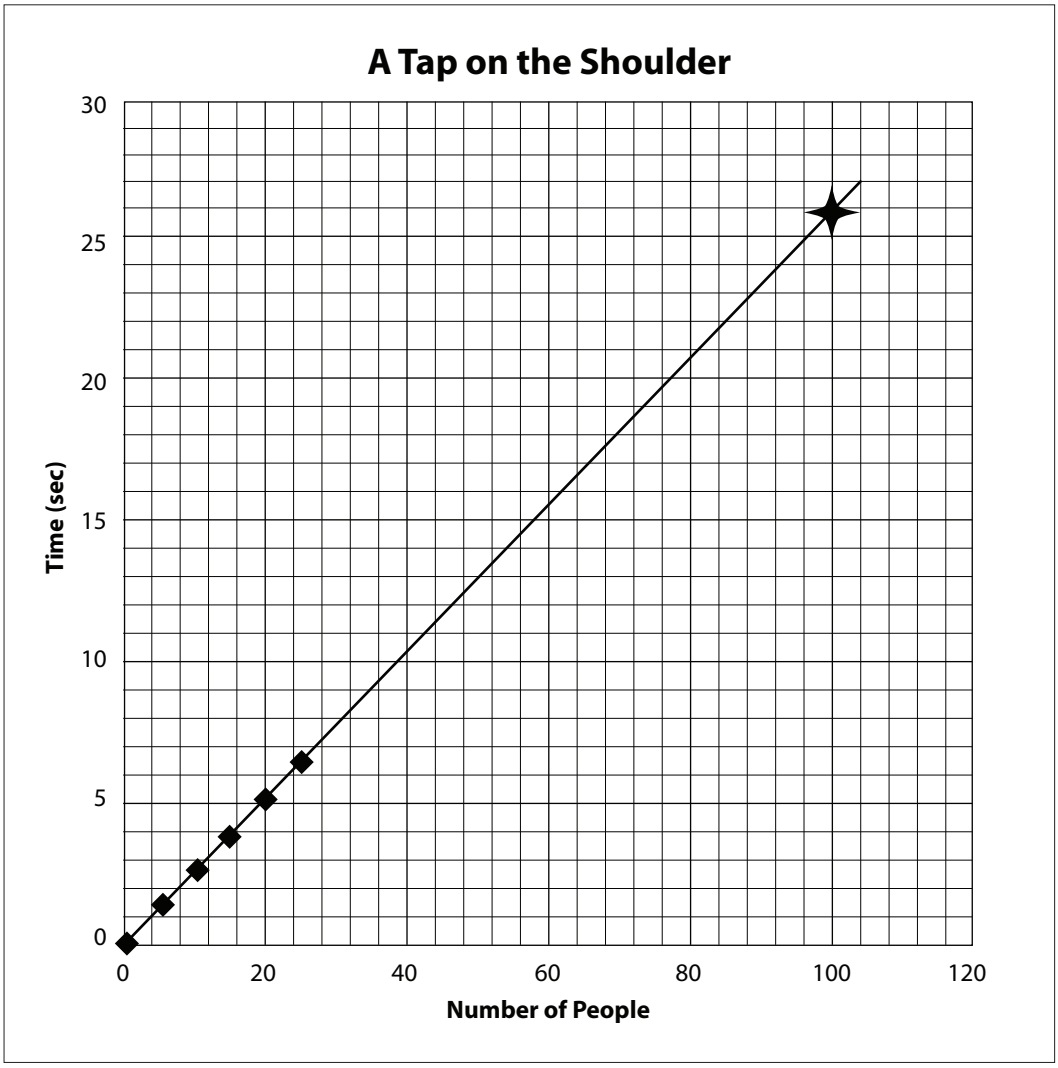
3. Use the rule
Value is equal to two and a half times the Step number
to complete the table below:

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 x 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 x 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:

Time = 0.25 x 100 + 0.2 = 25 .2 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.