

Worksheet Solutions 1

TI-30XB MultiView™: Making Predictions

WS1

Round these numbers to two decimal places:

D: $a = 0.3302392344$ **D: $a = 0.33$**

E: $b = 0.4954613807$ **E: $b = 0.50$**

F: $r = 0.9668908586$ **F: $r = 0.97$**

Time Taken = $a \times$ No. People + b

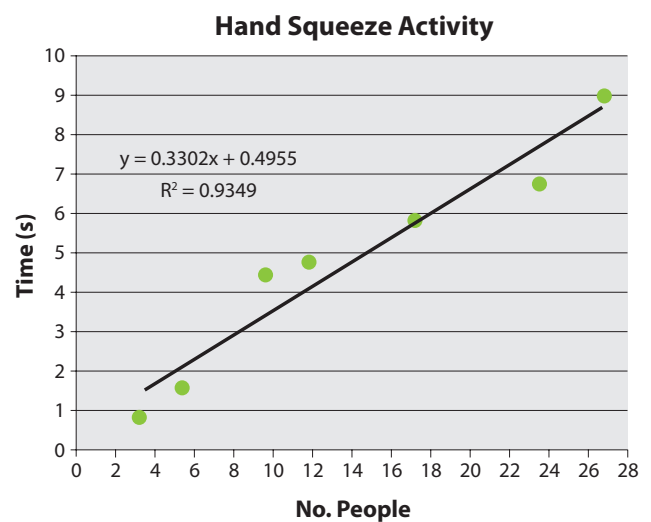
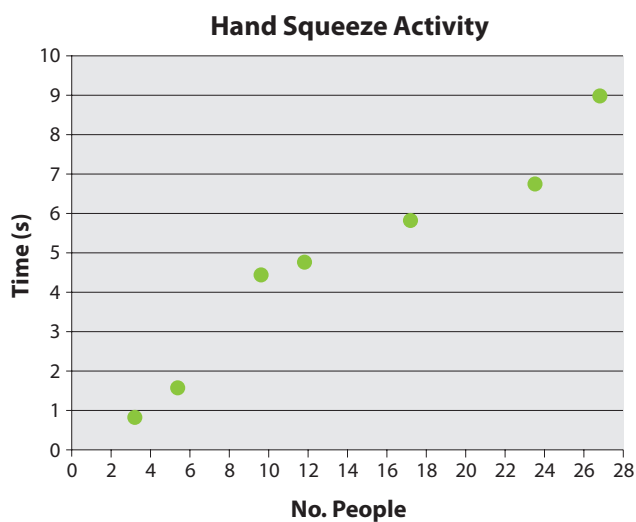
Using the class data, our rule (from our 'line-of-best-fit') is:

Time Taken = **$0.33 \times$** No. People + **0.5**

We can shorten this up to:

$T = 0.33 \times P + 0.5$

No. People	Time (s)
50	17.2
200	67.2
1200	400.5
5000	1667.2
25 000	8333.8
1 200 000	400 000.5
20 000 000	6 666 667.7



Assessment Task Solutions

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ATS

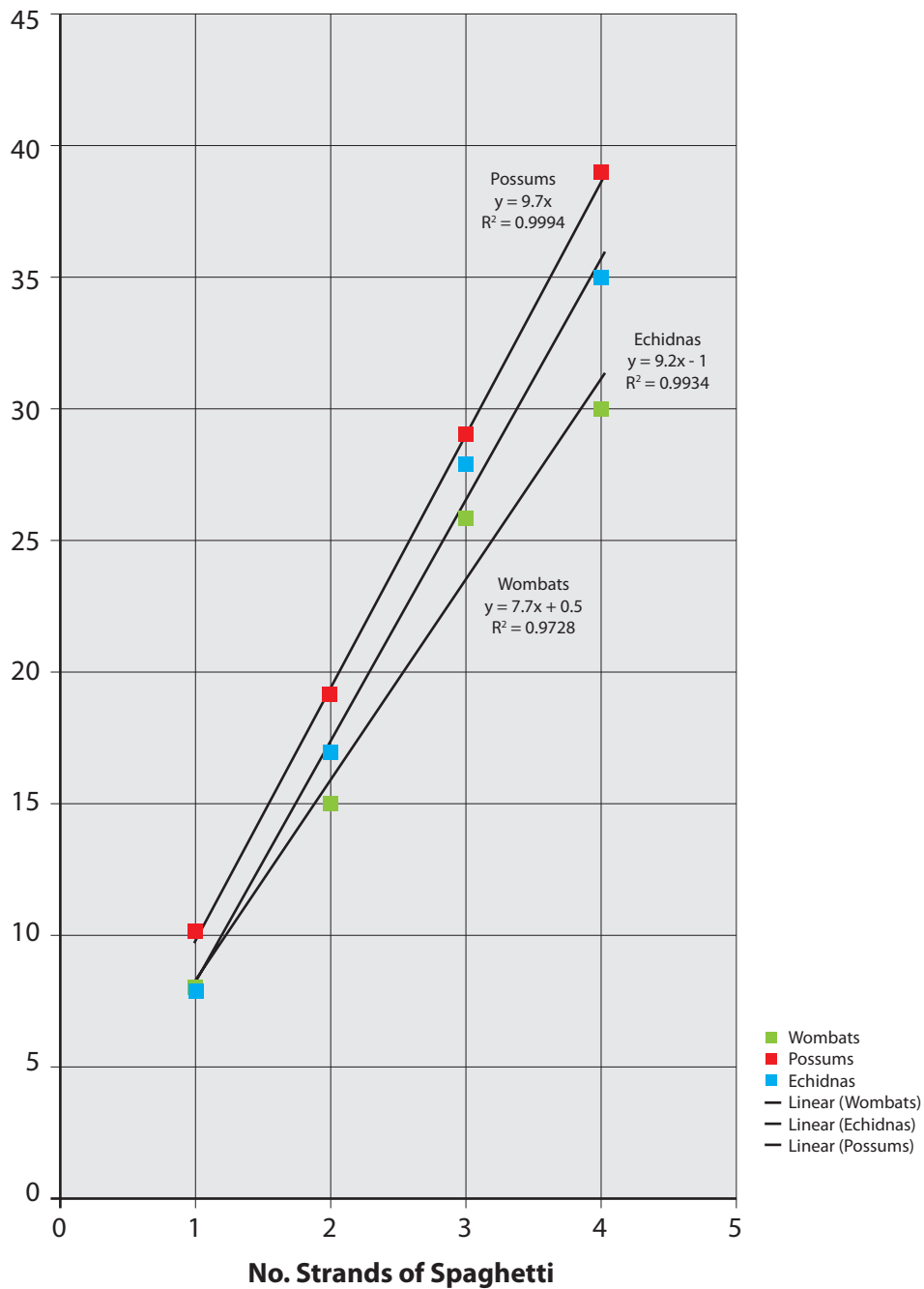
Group: Wombats		Our calculations based on the given data
No. strands of spaghetti	No. Nails	$a = 7.7$
1	8	$b = 0.5$
2	15	Equation of line-of-best-fit is: $y = 7.7x + 0.5$
3	26	This equation change to suit the context would be: Nails = $7.7 \times$ Spaghetti + 0.5
4	30	$N = 7.7S + 0.5$

Group: Possums		Our calculations based on the given data
No. strands of spaghetti	No. Nails	$a = 9.7$
1	10	$b = 0$
2	19	Equation of line-of-best-fit is: $y = 9.7x + 0$
3	29	This equation change to suit the context would be: Nails = $9.7 \times$ Spaghetti
4	39	$N = 9.7S$

Group: Enchidas		Our calculations based on the given data
No. strands of spaghetti	No. Nails	$a = 9.2$
1	10	$b = -1$
2	19	Equation of line-of-best-fit is: $y = 9.2x - 1$
3	29	This equation change to suit the context would be: Nails = $9.2 \times$ Spaghetti - 1
4	39	$N = 9.2S - 1$

Graph of Data from Beyond the Black Stump School

Strength of Spaghetti



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Predictive Data Sets

Set A		This data belongs to ... the Echidnas group because ... the line-of-best-fit is $y = 9.2x - 1$. This could be written as: $N = 9.2S - 1$ Substituting in $S = 5, 6 \text{ \& } 7$ gives 45, 54.2 & 63.4 nails needed to break the spaghetti, which is close the data for Mystery Set A.
No. strands of spaghetti	No. Nails	
5	45	
6	54	
7	63	

Set B		This data belongs to ... the Wombats group because ... the line-of-best-fit is $y = 7.7x - 0.5$. This could be written as: $N = 7.7S - 0.5$ Substituting in $S = 5, 6 \text{ \& } 7$ gives 39, 46.7 & 54.4 nails needed to break the spaghetti, which is close the data for Mystery Set B.
No. strands of spaghetti	No. Nails	
5	39	
6	47	
7	54	

Set C		This data belongs to ... the Possums group because ... the line-of-best-fit is $y = 9.2x$. This could be written as: $N = 9.7S$ Substituting in $S = 5, 6 \text{ \& } 7$ gives 48.5, 58.2 & 67.9 nails needed to break the spaghetti, which is close the data for Mystery Set C.
No. strands of spaghetti	No. Nails	
5	49	
6	58	
7	68	