

# Statistics Post-Test

## Juniors

### Time Series Investigation

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Year: (circle)      9      10

Name: \_\_\_\_\_

Tutor Group: \_\_\_\_\_

Teacher: \_\_\_\_\_

#### Problem

I wonder if there are any patterns in our classes attendance data?

## Plan

We will collect data each day, over the last 4 weeks of term 3, and record how many students from our class were present each day.

## Data

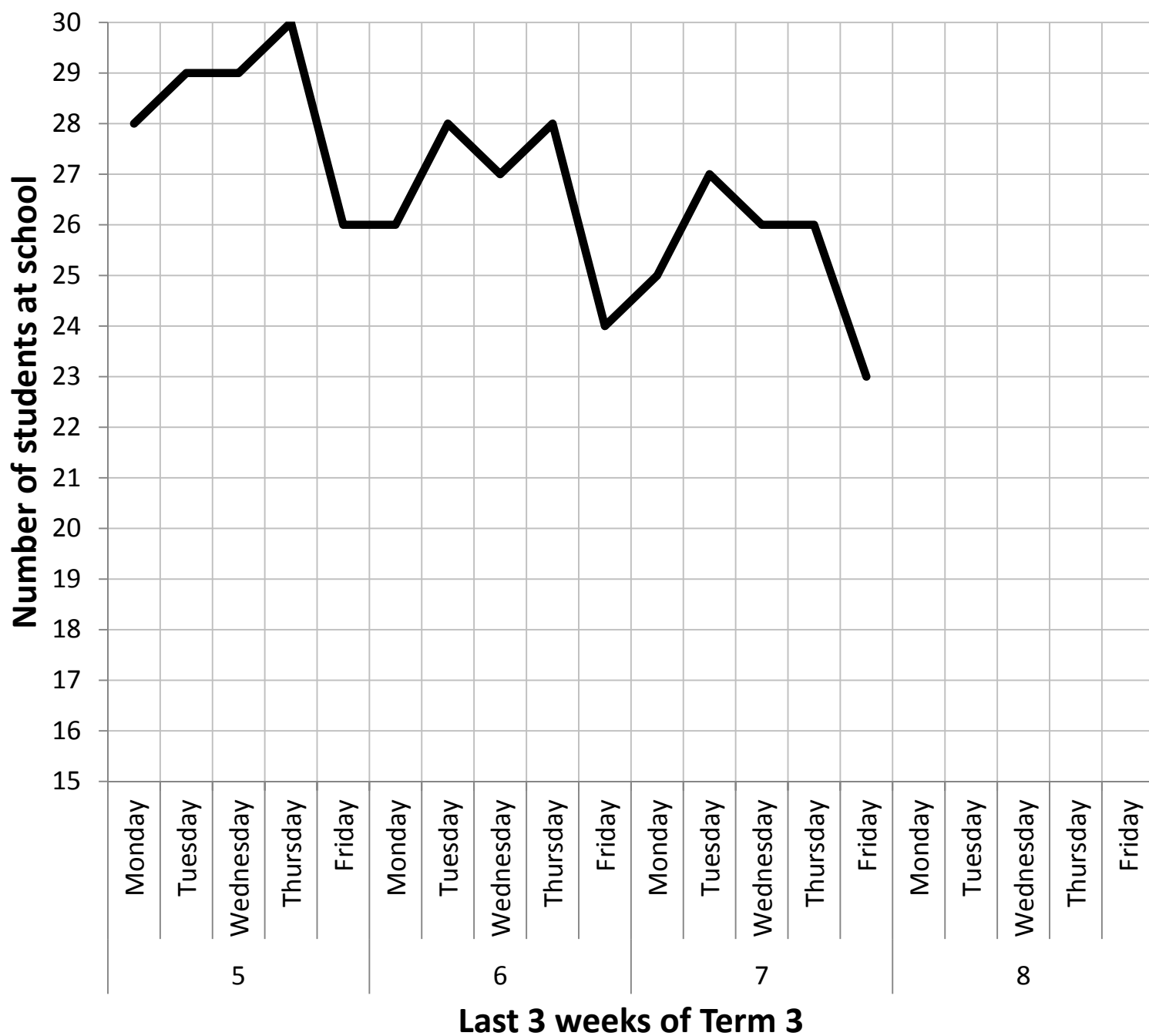
<b>Week</b>	<b>Day</b>	<b>Number of students at school</b>
5	Monday	28
	Tuesday	29
	Wednesday	29
	Thursday	30
	Friday	26
6	Monday	26
	Tuesday	28
	Wednesday	27
	Thursday	28
	Friday	24
7	Monday	25
	Tuesday	27
	Wednesday	26
	Thursday	26
	Friday	23
8	Monday	23
	Tuesday	24
	Wednesday	26
	Thursday	20
	Friday	16

## Analysis

The line graph below shows our data for weeks 5 – 7.

Add week 8's data onto the graph.

Then draw a trend line through the data.



## Analysis

Describe the trend and seasonality. Justify your description.

[illegible]

## Conclusion

Answer the investigation question.

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What does this data suggest about attendance in this class? Can the results be applied to the whole school or other schools in NZ?

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Time Series Assessment for: \_\_\_\_\_

	Level 2	Analysis		Draw 5 points correctly on the line graph
		Conclusion		Answer the question.
	Level 3	Analysis		Add a trend line to the graph
		Conclusion		Answer question in context
	Level 4	Analysis		Describe the trend in context
	Level 5	Analysis		Describe seasonality in context for all seasons.
	Level 6	Analysis		Describe and <b>justify</b> trend and seasonality in context, using statistical terms
		Conclusion		Statistical insight

**Comments:**

# Marking schedule Time Series for Juniors

Level 2		Level 3	Level 4	Level 5	Level 6	
Analysis	Conclusion	Analysis	Conclusion	Analysis	Analysis	Conclusion
Draw 5 points correctly on the line graph	Answer the question.	Add a trend line to the graph	Answer question in context	Describe the trend in context	Describe seasonality in context for all seasons.	Describe and <b>justify</b> trend and seasonality in context, using statistical terms
There is a negative trend pattern in the data.			There is a negative trend in the number of students attending school in the last 4 weeks of term 3.	Describe the trend in context	Describe seasonality in context for all seasons.	Describe and <b>justify</b> trend and seasonality in context, using statistical terms
			The number of students attending school in the last 4 weeks is decreasing,	Describe the trend in context	Describe seasonality in context for all seasons.	Describe and <b>justify</b> trend and seasonality in context, using statistical terms
			Monday is always below the trend, Tuesday is around the trend line, Wednesday is around or above the trend line, Thursday is always above the trend, Friday is always below the trend.	Describe the trend in context	Describe seasonality in context for all seasons.	Describe and <b>justify</b> trend and seasonality in context, using statistical terms
			The number of students attending school has decreased from a trend value of 29 on Monday week 5 to a trend value of 23 students on Friday week 8. I notice that the seasonality is a repeating pattern, that consistently matches days of the week	Describe the trend in context	Describe seasonality in context for all seasons.	Describe and <b>justify</b> trend and seasonality in context, using statistical terms
			It is reasonable to apply the conclusion to other classes at Aorere College, as the ethnic, gender and age mix is very similar. However, applying these results to other schools across NZ may not be very appropriate as other schools have very different ethnic, and gender compositions.	Describe the trend in context	Describe seasonality in context for all seasons.	Describe and <b>justify</b> trend and seasonality in context, using statistical terms