

91584MR



NEW ZEALAND QUALIFICATIONS AUTHORITY  
MANA TOHU MĀTAURANGA O AOTEAROA

QUALIFY FOR THE FUTURE WORLD  
KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

## Te Pāngarau me te Tauanga (Tauanga), Kaupae 3, 2017

### 91584M Te aromātai i ngā pūrongo tauanga

9.30 i te ata Rāhina 27 Whiringa-ā-rangi 2017  
Whiwhinga: Whā

## PUKAPUKA RAUEMI

Tirohia tēnei pukapuka hei whakatutuki i ngā tūmahi mō Te Pāngarau me te Tauanga (Tauanga) 91584M.

Tirohia mēnā e tika ana te raupapatanga o ngā whārangi 2–7 kei roto i tēnei pukapuka, ka mutu, kāore tētahi o aua whārangi i te takoto kau.

**KA TAEA TĒNEI PUKAPUKA TE PUPURI HEI TE MUTUNGA O TE WHAKAMĀTAUTAU.**

## PŪRONGO 1

### He āwhina te puoro ōkawa ‘kia parohe ai ngā kurī’

He āhuatanga whakaaio te puoro ōkawa a te Pākehā i ngā kurī kei ngā wāhi tiaki kurī, e ai ki ngā rangahau i whakahaerehia i te whenua o Kotarangi. I whakahaerehia te rangahau e te SPCA o Kotarangi me Te Whare Wānanga o Glasgow, ā, e 50 ngā kurī i whai wāhi mai nō tētahi wāhi whakaora me te tiaki kararehe o te SPCA o Kotarangi. E 34 o ngā kurī he toa, ā, e 21 ngā kurī he puru teria Staffordshire.

E rua ngā rōpū kurī i roto i te rangahau i aromatawaitia i roto i te rua wiki i tētahi wāhi whakaora me te tiaki kararehe. I mātakina tētahi rōpū kurī e noho whakangū ana, ā, i whakatangihia ngā puoro ōkawa i roto i ngā whare kurī o tērā atu rōpū. Ka whakawhitia ngā āhuatanga i te wiki tuarua. I heke te kaha kōhuki (i inea mā ngā kapa manawa, ngā tīpako hūware, me te mātakitaki whanonga) o ngā kurī i ngā rōpū e rua i muri i te whakarongotanga ki ngā puoro ōkawa. Te āhua nei he pai ake te urupare a ngā kurī toa i ngā kurī uwaha.

Engari, kāore i roa te kaha o tēnei whakaawenga, ka hoki anō ngā kaha kōhuki i te hipanga o tētahi rā kotahi i ētahi kēhi. I kī te kaiwhakahaere mātauranga me te rangahau a te SPCA o Kotarangi, a Gilly Mendes Ferreira: “Ahakoa i te mutunga o te wiki i hoki anō te kaha kōhuki ki tērā i te tuatahi, he āhuatanga whakatītina ngā kitenga tuatahi, ka mutu e whakaatu ana he pānga pai tō te puoro ōkawa ki te oranga o ngā kurī”.

He mea urutau mai i: ‘Classical music “helps dogs relax”’, *BBC News*, 2 Poutūterangi 2015, <http://www.bbc.com/news/uk-scotland-glasgow-west-31695766>.

He mea tiki ngā mōhiōhio tāpiri i: Bowman, A., Scottish, S. P. C. A., Dowell, F. J., & Evans, N. P. (2015). ‘“Four Seasons” in an animal rescue centre; classical music reduces environmental stress in kennelled dogs’, *Physiology & Behavior*, 143, 70–82.

## REPORT 1

### Classical music ‘helps dogs relax’

Classical music has a calming effect on dogs in rehoming centres, according to research carried out in Scotland. The study was carried out by the Scottish SPCA and the University of Glasgow and involved 50 dogs from a Scottish SPCA animal rescue and rehoming centre. 34 of the dogs were male, and 21 of the dogs were Staffordshire bull terriers.

The study involved two groups of dogs being examined over a period of two weeks in a rescue and rehoming centre. One group of dogs was observed in silence, whilst the other had classical music played into their kennels. The conditions were then switched in the second week. In both groups the dogs’ stress levels (measured through heart rates, saliva samples, and observation of behaviour) decreased after listening to classical music. Male dogs seemed to respond better than female dogs.

However, the effect lasted only for a short period, with stress levels returning to normal after one day in some cases. Scottish SPCA’s education and research manager, Gilly Mendes Ferreira, said: “Although by the end of the week their stress levels had returned to normal, the initial findings are very encouraging and show that classical music does have a positive impact on the dogs’ welfare”.

Adapted from: ‘Classical music “helps dogs relax”’, *BBC News*, 2 March 2015, <http://www.bbc.com/news/uk-scotland-glasgow-west-31695766>.

Additional information sourced from: Bowman, A., Scottish, S. P. C. A., Dowell, F. J., & Evans, N. P. (2015). ‘“Four Seasons” in an animal rescue centre; classical music reduces environmental stress in kennelled dogs’, *Physiology & Behavior*, 143, 70–82.

## PŪRONGO 2

### Kei te rangirua ngā rangatira o ngā kurī mō ngā kai ka whāngaihia

Nā te tipu o te hiahia o ngā rangatira o ngā kurī ki te whāngai i ā rātou mōkai ki ngā kai hou rawa a te tangata e manakohia ana, ka hua ake te rangirua me ngā raruraru hauora anō i tētahi wā ki ngā kurī mōkai. Kei te kitea e ngā rata kararehe te nui haere o ngā kurī e whāngaia ana ki ngā kai mata kia rite nei ki ngā rangatira o ngā kurī e kai ana i ngā kai paleo. E ai ki tētahi kaiako matua rmo te ongoā me te kai a ngā kararehe nohinohi a Nick Cave, mēnā e hiahia ana ngā kaiwhaiwhai nei o ngā kai paleo ki te whāngai i ā rātou kurī ki ngā kai mata, e tūtohu ana ia kia whakamahia anake ko ngā kai mata, ko ngā kai tōtika hoki e whakanaohia ana e ngā kamupene kai kararehe.

I kī te kamupene kai kurī mata a K9 Natural, kua hē te whakananu a ngā rangatira o ngā kurī i ngā hiahia kai a te kurī ki ō te tangata. I whakahaerehia he rangahau i ngā rangatira kurī 500 e te kamupene o Ōtautahi mā te kamupene rangahau tuihono a Survey Monkey. I kī te pouārahi o K9 Natural a Neil Hinton he maha rawa ngā kurī i te kai tonu i ngā kai kua tukatukahia rawatia, kī tonu i ngā kai warowaihā e pokea nei ngā kurī e ngā mate hauora noa.

E ai ki a K9 Natural, i kitea e te rangahau ahakoa 96% o ngā tāngata o Aotearoa i kī e tino arohaina ā rātou kurī hei mōkai whānau, neke atu i te haurua (58%) kāore i paku mōhio he aha i roto i ngā kai i whāngaia e rātou ki ā rātou kurī. I kitea anō e te rangahau a K9 Natural e 40% o ngā kurī kei te pāngia e ngā mate huhua pērā i ngā mate uaua me ngā hono, mate kiri, pupuhi me te waikauere – ka taea katoahia ēnei te whakatika mā ngā kai tūturu, nui te mīti pērā i a K9 Natural, te kī a Hinton.

He mea urutau mai i: ‘Dog owners confused on best doggy diets’, *Stuff*, 26 Whiringa-ā-rangi 2015, <http://www.stuff.co.nz/national/74391352/Dog-owners-confused-on-best-doggy-diets>.

He mea tiki ngā mōhiohio tāpiri i: ‘Dogs weigh in on a natural high-meat diet’, *K9 Natural*, 30 Paengawhāwhā 2016, <https://www.k9natural.co.nz/dogs-weigh-natural-high-meat-diet/>.

## REPORT 2

### **Dog owners confused on best doggy diets**

Dog owners' growing desire to feed their pets according to the latest human diet trends is leading to growing confusion and sometimes health issues for treasured pooches. Vets are seeing an increasing number of dogs being fed raw food diets to match their owners moving to paleo diets. Senior lecturer in small animal medicine and nutrition Nick Cave said if paleo fans want to put their dogs on raw food he would recommend using only commercially produced and balanced raw food from pet food companies.

Raw dog food company K9 Natural said dog owners were confusing canine nutritional needs with humans' needs. A survey of 500 dog owners was conducted by the Christchurch-based company through the online survey company Survey Monkey. K9 Natural chief executive Neil Hinton said too many dogs were still getting highly processed, carb-laden foods that were adding to a lot of the common health issues dogs had.

According to K9 Natural, the survey revealed that although 96% of New Zealanders claim their dog is a much loved family pet, over half (58%) have no idea what ingredients are in the food they feed their dog. The K9 Natural survey also revealed that 40% of dogs suffer from an array of health conditions such as muscle and joint issues, skin problems, bloating and low energy levels – all of which can be remedied by a natural, high-meat diet like K9 Natural, Hinton says.

Adapted from: 'Dog owners confused on best doggy diets', *Stuff*, 26 November 2015, <http://www.stuff.co.nz/national/74391352/Dog-owners-confused-on-best-doggy-diets>.

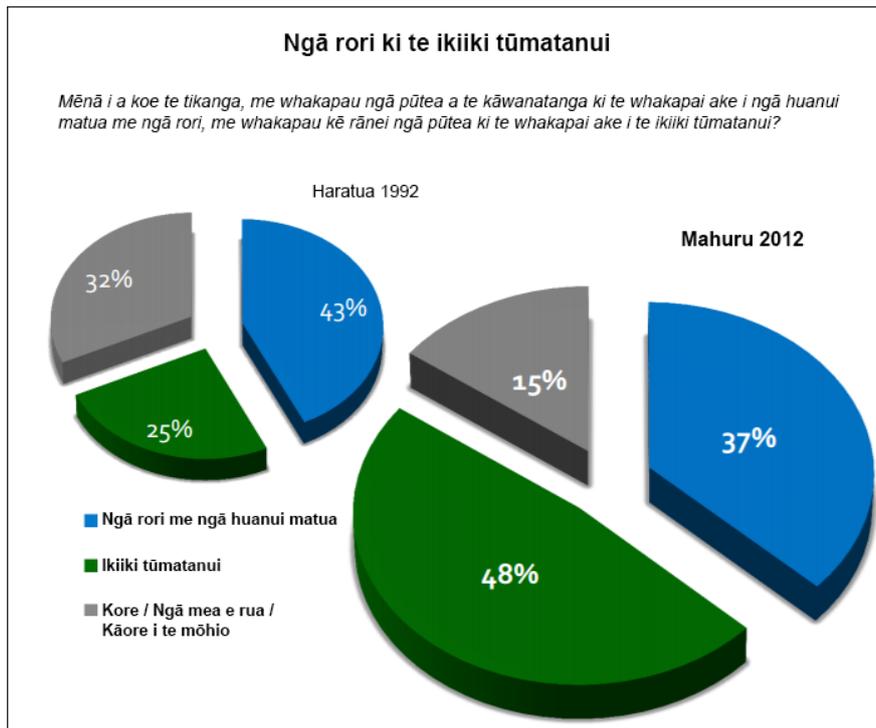
Additional information sourced from: 'Dogs weigh in on a natural high-meat diet', *K9 Natural*, 30 April 2016, <https://www.k9natural.co.nz/dogs-weigh-natural-high-meat-diet/>.

### PŪRONGO 3

**Kua tino kaha te piki o ngā tautoko mō ngā whakapaunga ki ngā pahī, ki ngā tereina: E whakaatu ana te tatauanga kua huarua te hunga e hiahia kē ana i te ikiiki tūmatanui tēnā i ngā huanui matua me ngā rori i roto i te 20 tau.**

Kua tata ki te huarua te pikinga o te tautoko a te marea mō ngā whakapaunga ki ngā ikiiki tūmatanui i roto i te 20 tau, e ai ki tētahi tatauanga o ngā tāngata o Aotearoa. E whakaatu ana te tatauanga a UMR Research i tētahi huri kōaro mai i te tau 1992, ina 43 ōrau o rātou i rangahautia i hiahia kē kia whakapaua ngā pūtea a te kāwanatanga ki ngā huanui matua me ētahi atu rori tūmatanui, tēnā ki te 25 ōrau i tautoko i te ikiiki tūmatanui hei tono whakapaunga whakaarotau i te tau 1992.

Tae mai ki te Mahuru 2012, i te whakahaerenga o te tatauanga hou rawa, kua huri kē ngā whakaaro.



Ko te hunga i tautoko i ngā whakapaunga whakaarotau ki te ikiiki tūmatanui i tipu ki te 48 ōrau, i te 37 ōrau e tautoko ana i ngā rori.

Ko te ōwehenga kāore i te mōhio, i te tautoko rānei kia ōrite te whakapaunga ki ngā mea e rua i heke ki te 15 ōrau mai i te 32 ōrau i te tau 1992.

I uiui ngā kaiwhakauru mai ki te rangahau i tēnei pātai i runga waea: “Mēnā i a koe te tikanga, me whakapau ngā pūtea a te kāwanatanga ki te whakapai ake i ngā huanui matua me ngā rori, me whakapau kē rānei ngā pūtea ki te whakapai ake i te ikiiki tūmatanui?”

I kī tētahi māngai ikiiki o te Rōpū Reipa e whakaatu ana te tatauanga i te mōhio o te iwi whānui “kāore e taea e tātou te hanga kia nui atu ngā huanui matua i te mea ka kī noa iho i te mahi a te waka, ka mutu e mōhio ana te iwi whānui ki te kore he pūnaha ikiiki tūmatanui tika e kore e momoho tō tāone nui.”

He rangahau ā-waea motu whānui te rangahau UMR 1992 me te 2012 mā te whakamahi i tētahi tīpako o ngā tāngata o Aotearoa 18 tau, neke atu rānei mō ia rangahau. Mā ngā motunga me ngā taumaha mātanga ka whakaū he tino whakaaturanga nō te iwi whānui ki tērā e taea ana. He 3.6% te pae hapa mō ngā rangahau e rua.

He mea urutau mai i: ‘Support soars for spending on buses, trains’, *NZ Herald*, 25 Huitanguru 2013, [http://www.nzherald.co.nz/nz/news/article.cfm?c\\_id=1&objectid=10867504](http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10867504).

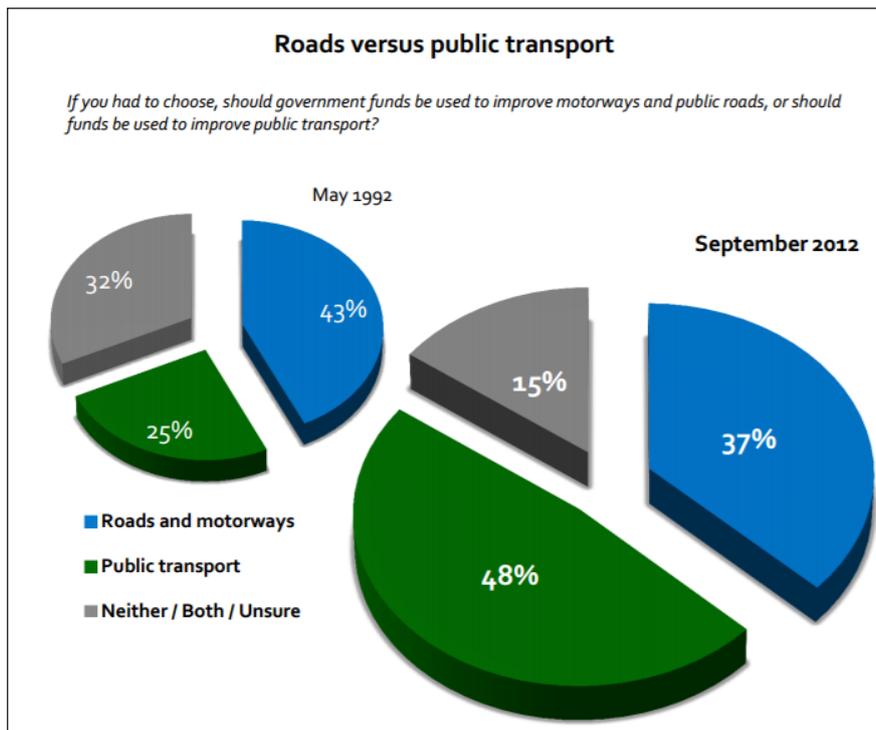
He mea tiki ngā mōhiohio tāpiri i: [http://umr.co.nz/sites/umr/files/umr\\_mood\\_of\\_the\\_nation\\_2013\\_online.pdf](http://umr.co.nz/sites/umr/files/umr_mood_of_the_nation_2013_online.pdf) p. 26.

## REPORT 3

### Support soars for spending on buses, trains: Poll shows preference for public transport over motorways and roads has doubled in 20 years.

Popular support for spending on public transport has almost doubled over 20 years, according to a poll of New Zealanders. The poll by UMR Research shows a reverse from 1992, when 43 per cent of those surveyed preferred Government money to be spent on motorways and other public roads, compared with 25 per cent support for public transport as the priority spending candidate in 1992.

By September 2012, when the latest poll was taken, the tables had turned.



Those supporting priority spending on public transport had grown to 48 per cent, compared with 37 per cent favouring roads.

The portion who were unsure or supported equal spending on both categories fell to 15 per cent, from 32 per cent in 1992.

Survey participants were asked the following question by phone: “If you had to choose, should Government funds be used to improve motorways and public roads, or should funds be used to improve public transport?”

A Labour Party transport spokesman said the poll showed the public understood “we cannot go on building more and more motorways because they just fill up with cars, and people know you cannot have a successful city without a proper public transport system”.

Both the 1992 and the 2012 UMR research is based on a nationwide telephone survey using a sample of New Zealanders aged 18 and over for each survey. Sophisticated quotas & weights ensure the sample is as representative as possible. The margin of error for both surveys is 3.6%.

Adapted from: ‘Support soars for spending on buses, trains’, *NZ Herald*, 25 February 2013, [http://www.nzherald.co.nz/nz/news/article.cfm?c\\_id=1&objectid=10867504](http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10867504).

Additional information sourced from: [http://umr.co.nz/sites/umr/files/umr\\_mood\\_of\\_the\\_nation\\_2013\\_online.pdf](http://umr.co.nz/sites/umr/files/umr_mood_of_the_nation_2013_online.pdf) p. 26.

*English translation of the wording on the front cover*

## **Level 3 Mathematics and Statistics (Statistics), 2017**

**91584 Evaluate statistically based reports**

9.30 a.m. Monday 27 November 2017  
Credits: Four

**RESOURCE BOOKLET**

Refer to this booklet to answer the questions for Mathematics and Statistics (Statistics) 91584.

Check that this booklet has pages 2–7 in the correct order and that none of these pages is blank.

**YOU MAY KEEP THIS BOOKLET AT THE END OF THE EXAMINATION.**