



NEW ZEALAND QUALIFICATIONS AUTHORITY
 MANA TOHU MĀTAURANGA O AOTEAROA

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

3

COMMON ASSESSMENT TASK

Level 3 Digital Technologies and Hangarau Matihiko, 2019

91908 Analyse an area of computer science

Credits: Three

Achievement Criteria		
Achievement	Achievement with Merit	Achievement with Excellence
Analyse an area of computer science.	Analyse, in depth, an area of computer science.	Critically analyse an area of computer science.

Type your School Code and 9-digit National Student Number (NSN) into the header at the top of this page. (If your NSN has 10 digits, omit the leading zero.)

Answer all parts of the assessment task in this document.

Your answer should be presented in 12pt Arial font, within the expanding text boxes, and may only include information you produce during this examination session.

You should aim to write between **800–1500 words** in total.

Save your finished work as a PDF file with the file name used in the header at the top of this page ("SchoolCode-YourNSN-91908.pdf").

By saving your work at the end of the examination, you are declaring that this work is your own. NZQA may sample your work to ensure that this is the case.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

INSTRUCTIONS

Read all parts of the assessment task before you begin.

Select ONE of the following computer science areas:

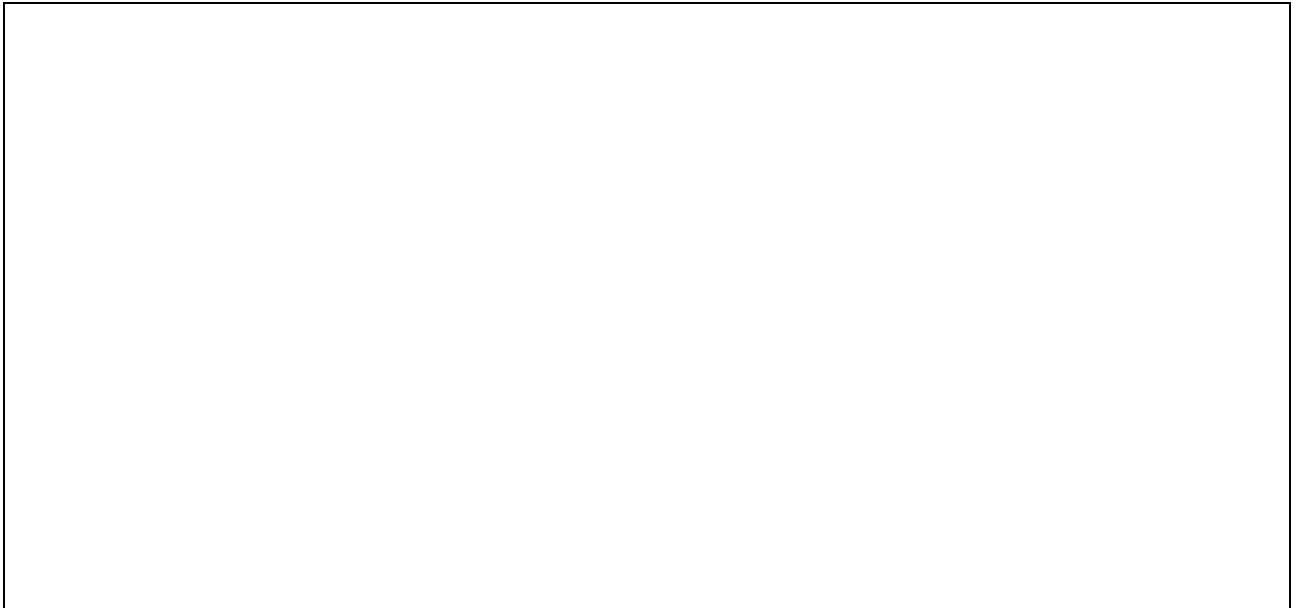
- complexity and tractability
- computer vision
- big data
- computer graphics
- formal languages
- network-communication protocols.

Type your chosen computer science area in the space below:

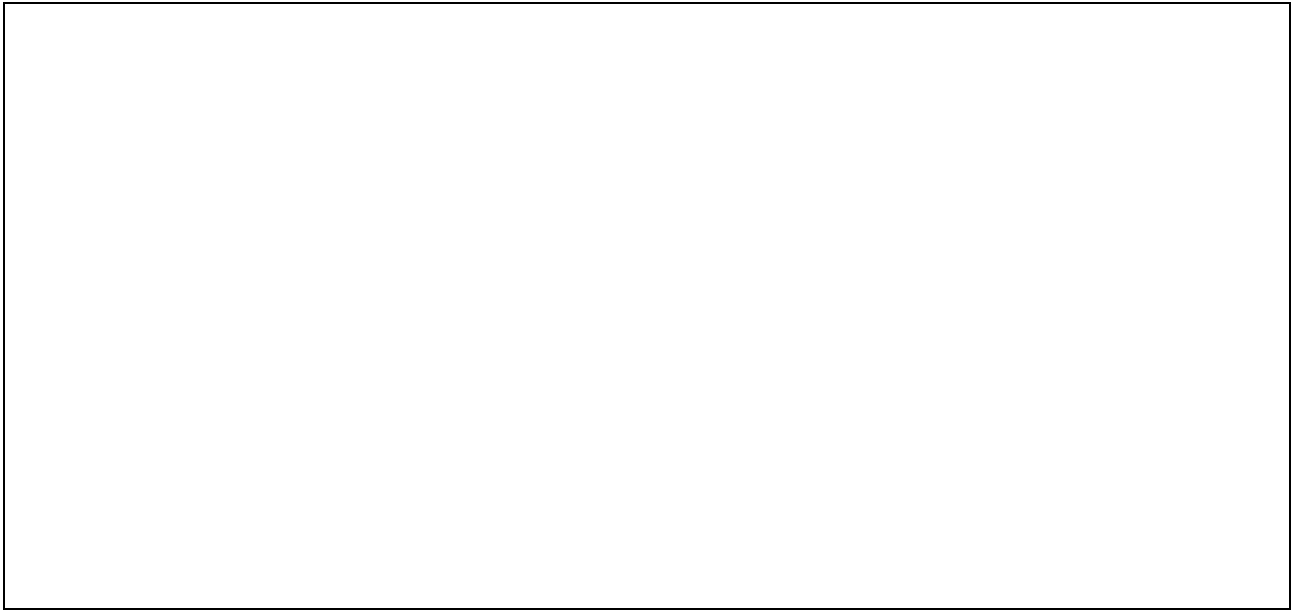
Begin your answers on page 3.

ASSESSMENT TASK

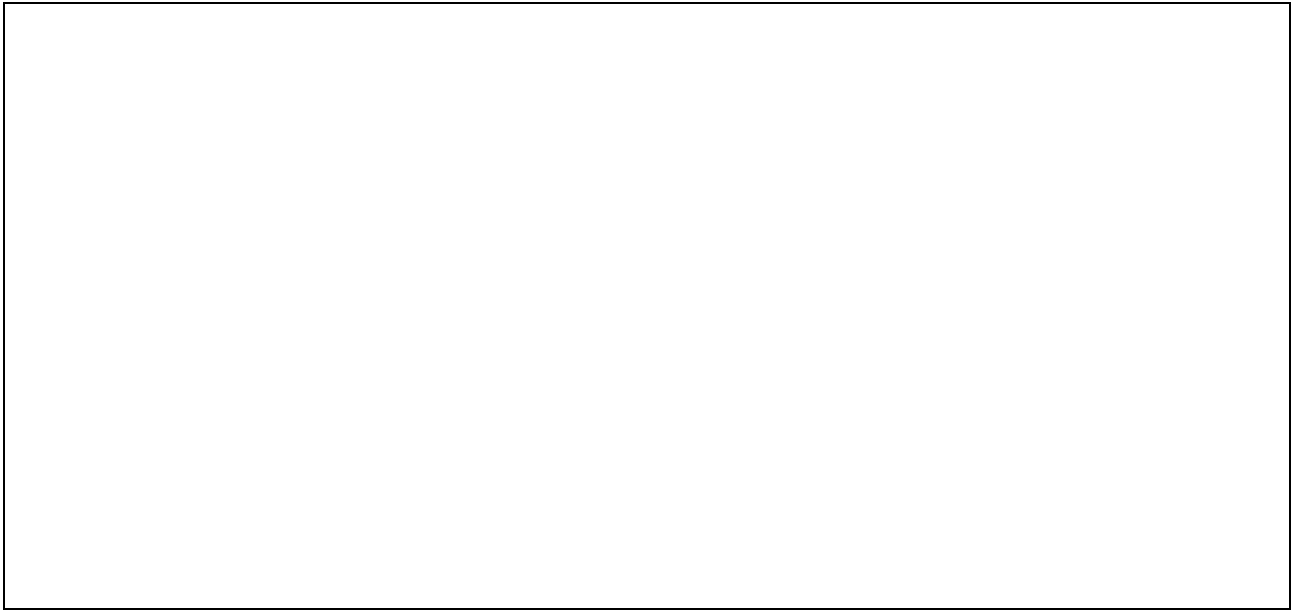
- (a) Explain the key aspects of your chosen computer science area.



(b) Explain the relevant algorithms or mechanisms that support your chosen computer science area.

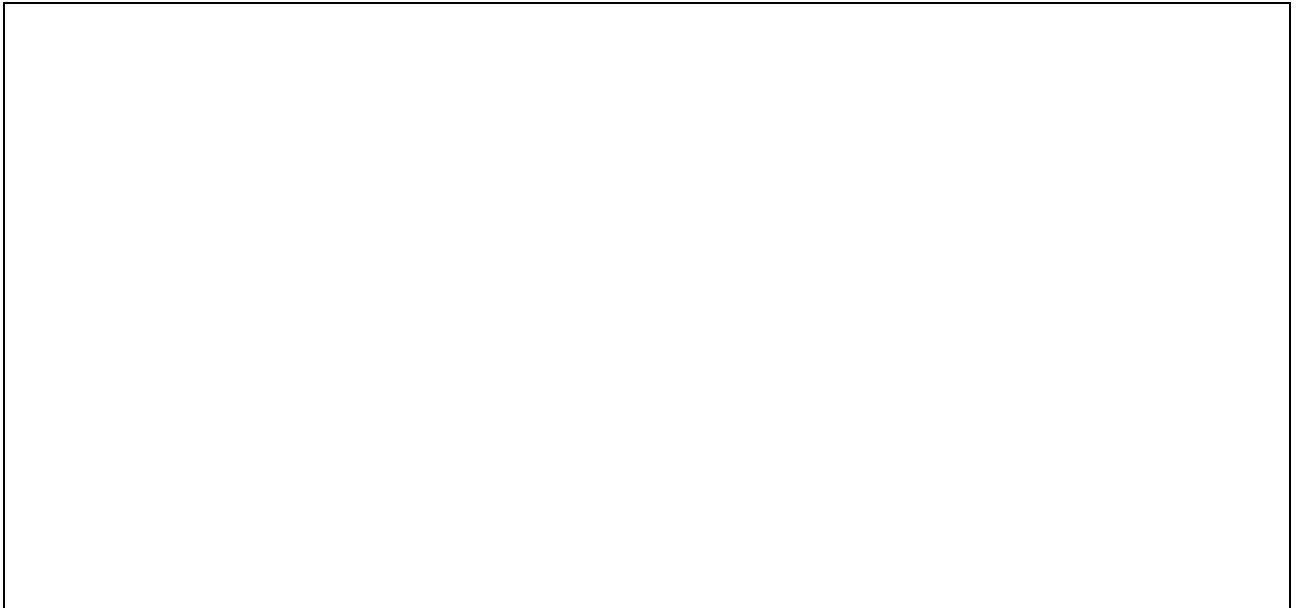


- (c) Explain how your chosen computer science area is used, implemented or occurs. Use examples to support your answer.



- (d) Explain the key problems or issues related to your selected computer science area, AND how these have been, or may be, addressed.

- (e) Provide a detailed explanation of how the technical capabilities and limitations of your chosen computer science area relate to humans. Use examples to support your answer.



- (f) Compare and contrast different perspectives on your chosen computer science area.

A large, empty rectangular box with a thin black border, intended for the student to write their response to the question. The box is currently blank.

(g) What conclusions can you draw about your chosen computer science area?
In your answer, you could:

- explore less-obvious implications
- justify predictions that you make
- consider potential improvements
- suggest innovative and imaginative wider uses.

