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NZQA
NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

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

COMMON ASSESSMENT TASK

Level 3 Digital Technologies and Hangarau Matihiko 2020

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 must not access the Internet or use any printed or other resources except for this assessment.

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.

INSTRUCTIONS

Read all parts of the assessment task before you begin.

Select ONE of the following computer science areas:

- complexity and tractability

- formal languages

- computer vision.

Copy and paste your selected computer science area in the space below:

You may snip or screengrab relevant resources from pages 3 and 4 to support your answers in the assessment task.

Begin your answers on page 5.
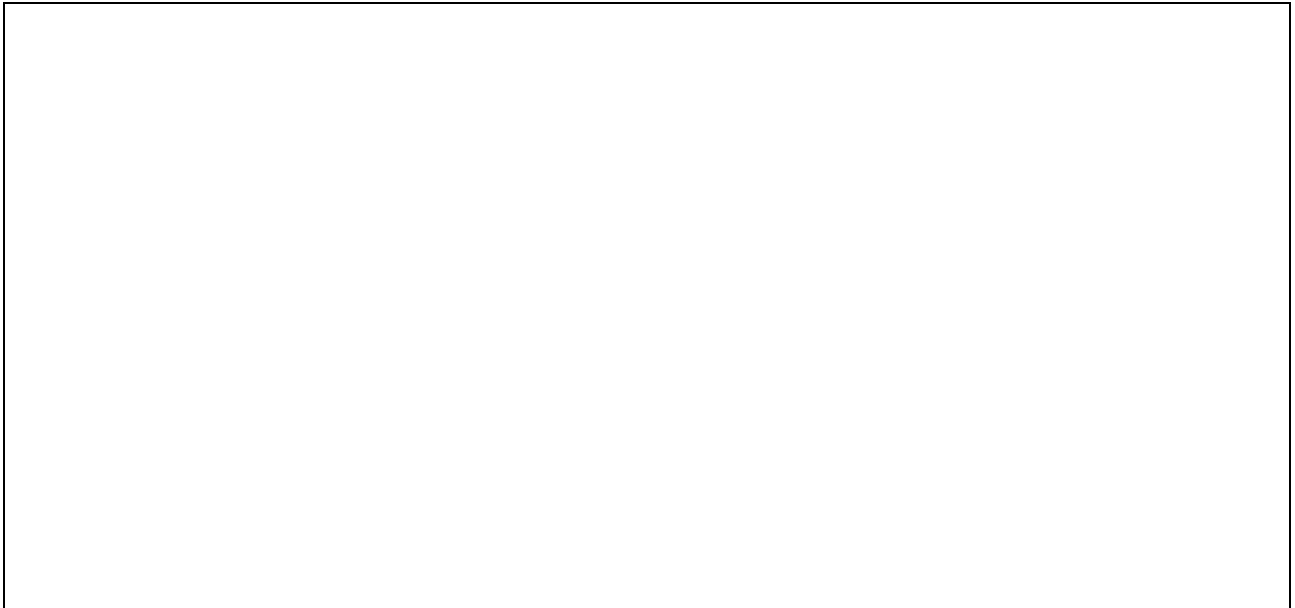
RESOURCES

Complexity and tractability

Formal languages
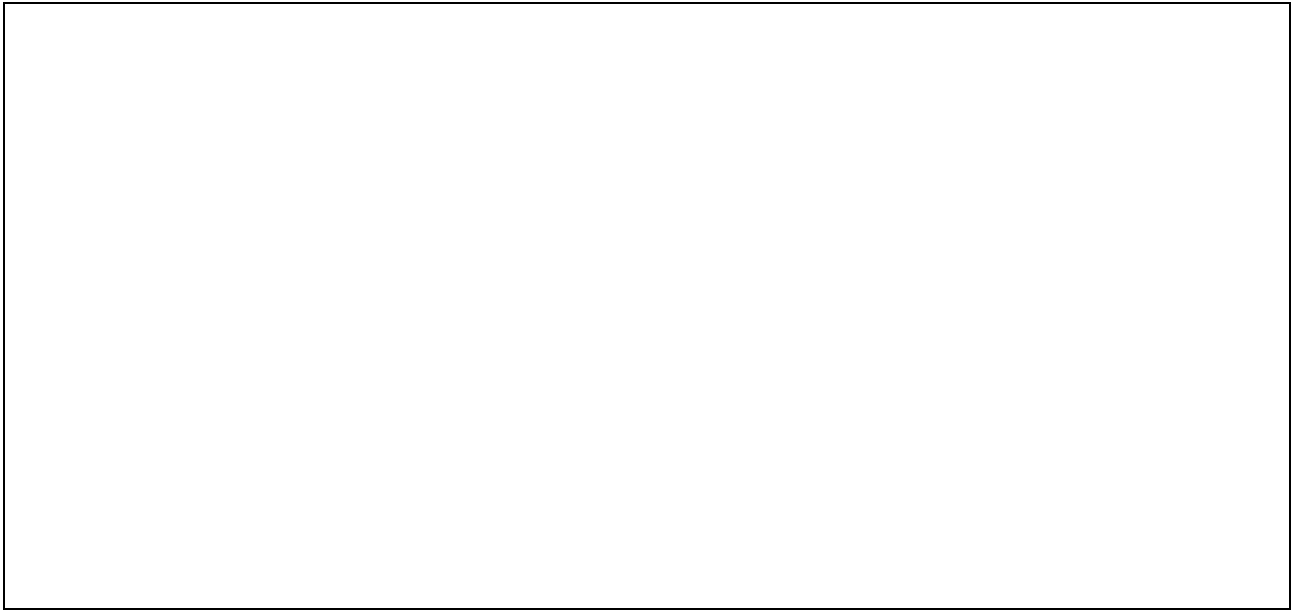
RESOURCES continued

Computer vision

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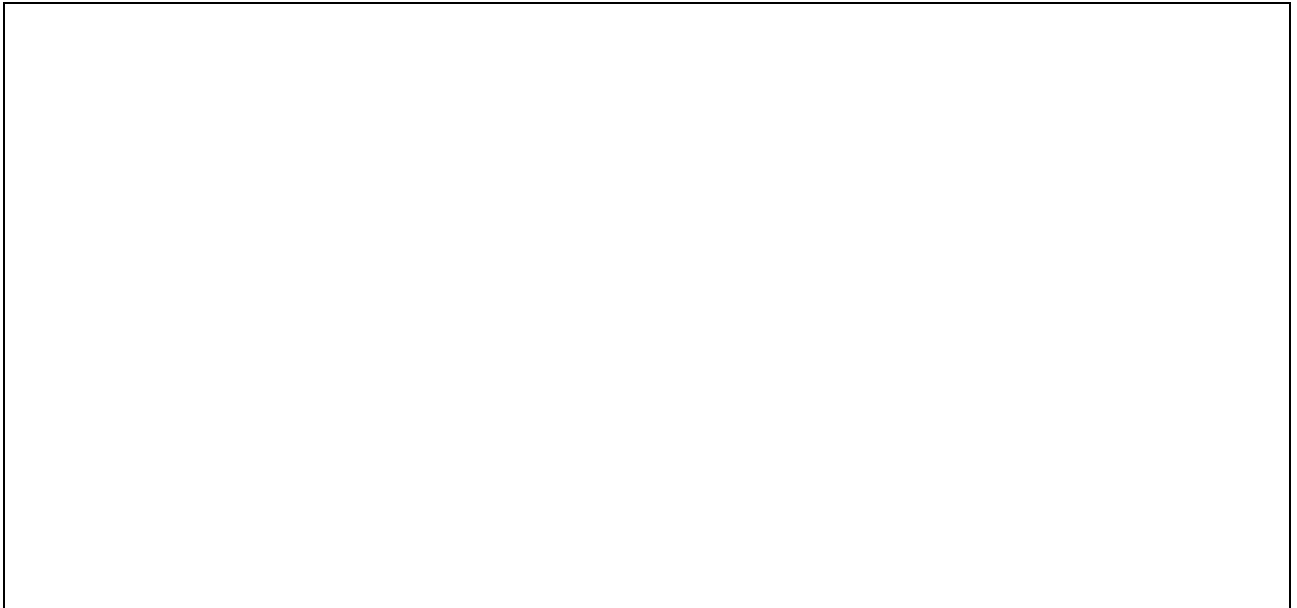
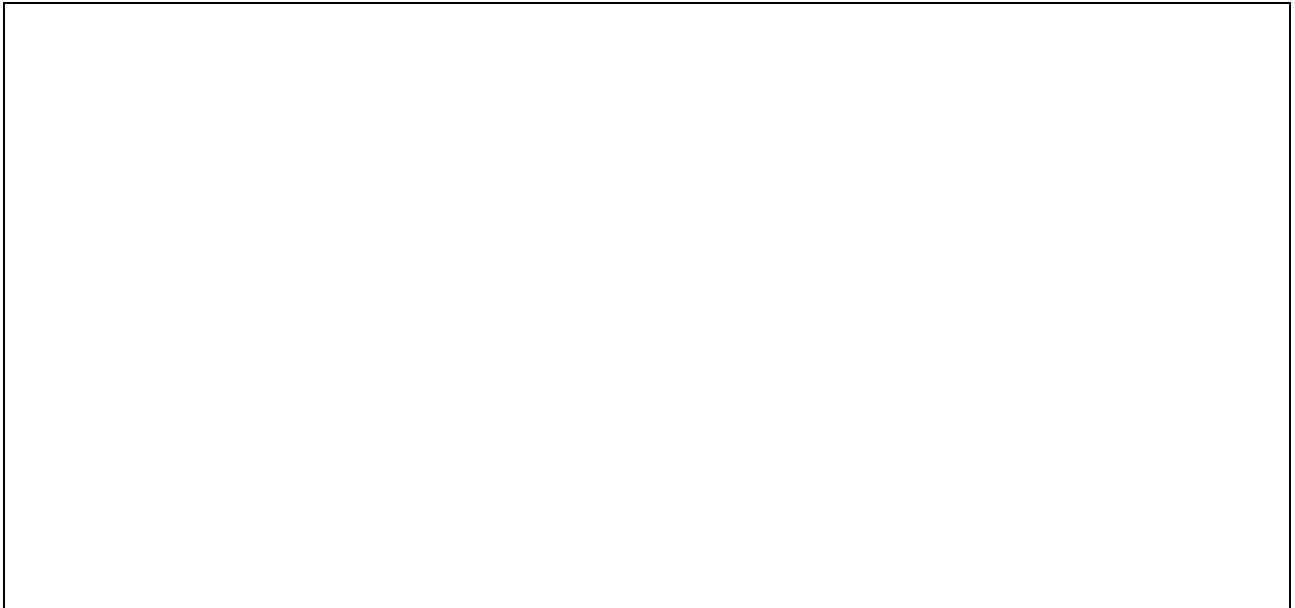(a)   Explain the key aspects of your chosen computer science area.

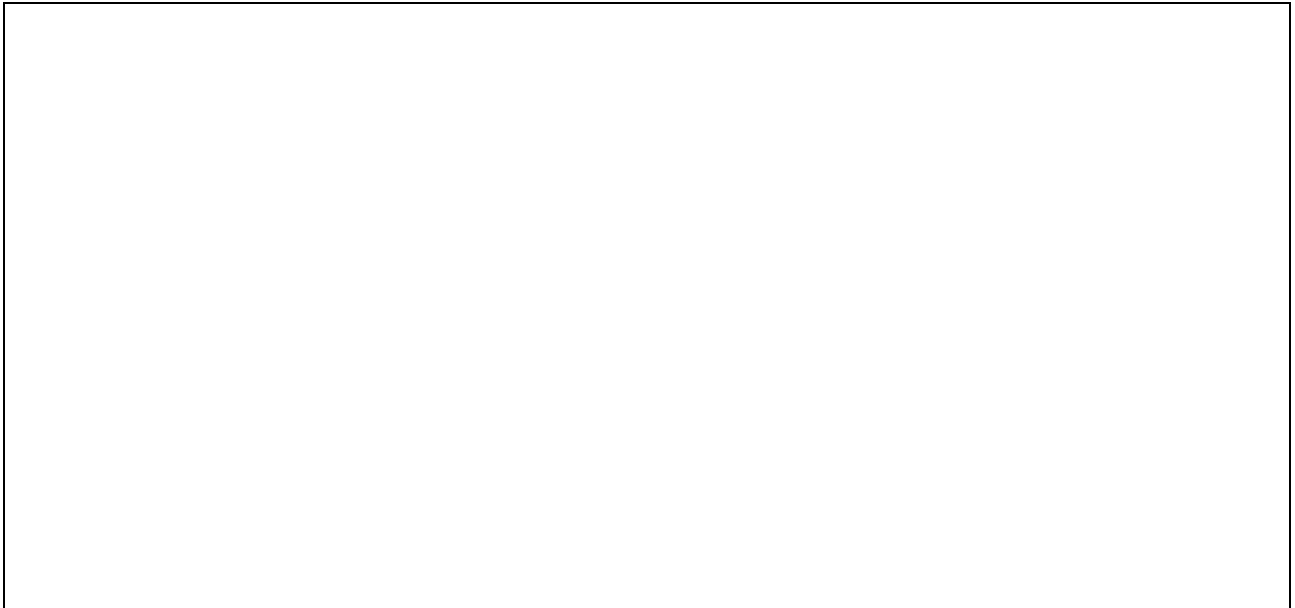(b)   Explain the relevant algorithms or mechanisms that support your chosen computer science area.

(c)   Explain how your chosen computer science area is used, implemented or occurs. Use examples to support your answer.
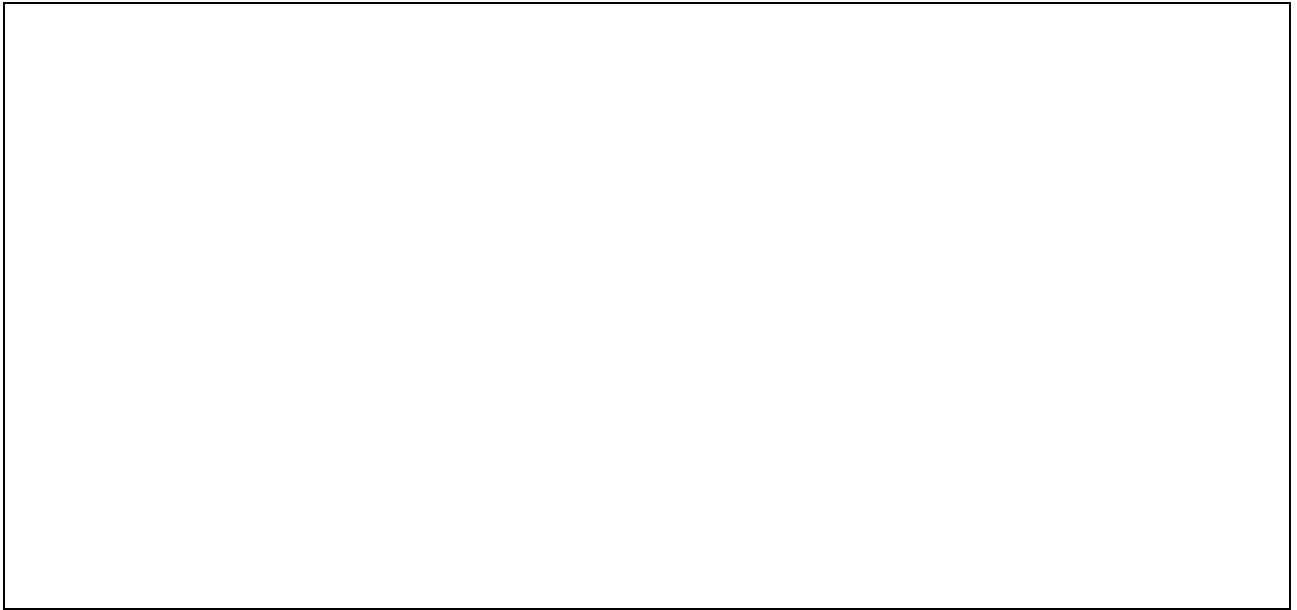
(d)   Explain the key problems or issues related to your selected computer science area, and how these have been, or may be, addressed.

(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.

(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.