

Bertram Education

2027 information pack

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Who are we?

Bertram Education is passionate about supporting Tasmanian classrooms with clear, structured, TASC specific learning resources.

Continuing the fantastic work of John Short, everything created is written by teachers specifically for the Tasmanian TCE curriculum. We have big plans to expand into more courses and always welcome feedback.

2027 available courses.

- General mathematics (level 2)
- General mathematics (level 3)

Available products. Student workbooks

Overview

- Comprehensive workbook set covering the entire school year.
- Structured around the gradual release model (I do, We do, You do)

WHAT IS AN ARITHMETIC SEQUENCE?

An arithmetic sequence is a pattern where the numbers change by the same amount each step. This amount can be:

- Positive (increasing sequence) → 4, 7, 10, 13, 16, ... (+3 each time)
 Negative (decreasing sequence) → 15, 10, 5, 0, -5 ... (-5 each time)
 Zero (constant sequence) → 8, 8, 8, 8, ... (no change, +0)

Arithmetic sequences add or subtract the SAME number each time.

Arithmetic sequences model situations where something increases or decreases by a fixed amount over time. These sequences can represent real life situations.

- Saving \$50 every week → 50, 100, 150, 200, ...
 Temperature drops 2°C each hour → 18, 16, 14, 12, ...
 A plant grows 3 cm each day → 5, 8, 11, 14, ...

Theory - Concepts are introduced using clear, student-friendly language.



Worked example. From sequence → graph

Jasmin starts a new job and earns \$200 in her first week. Each week, she earns \$50 more than the previous week as she takes on extra responsibilities. This sequence could be written as: 200, 250, 300, 350, 400, 450, ...

Step 1: Make a table of term position (n) and term value (t_n) for the first 6 terms.

Term position (n)	Value (t_n)	Point @ (n, t_n)
1	200	(1, 200)
2	250	(2, 250)
3	300	(3, 300)
4	350	(4, 350)
5	400	(5, 400)
6	450	(6, 450)

Step 2: Plot the points. We only plot the points (discrete values). We do not join them with a continuous line because sequences only exist at set intervals.

I do - Worked examples introduce each concept and model required skills.

With your teacher.

1. Identify if each sequence is arithmetic. If it is, state the common difference (d).

	Arithmetic sequence?	Common difference (d)
a) 3, 6, 9, 12, ...		
b) 10, 7, 4, 1, ...		
c) 5, 10, 20, 40, ...		
d) 5, 5, 5, 5, ...		
e) 2, 5, 9, 14, ...		
f) 100, 90, 80, 70, ...		

2. Write the first 5 terms (t_1, t_2, t_3, t_4, t_5) of each arithmetic sequence.

a) Start at 4, add 6 each time

We do - Guided practice questions for students to complete with their teacher.



Try it yourself (INTRO TO SEQUENCES)

1. State whether each of the following sequences are arithmetic. If they are, state the common difference (d), first term (t_1) and the third term (t_3)

- a) 9, 12, 15, 18, ...
 b) 16, 8, 4, 2, ...
 c) 5, 3, 1, -1, -3 ...
 d) 2, 5, 9, 14, ...
 e) -10, -5, 0, 5, ...
 f) 7, 7, 7, 7, ...

2. Fill in the missing terms.

- a) 2, __, __, 8, 10
 b) __, 14, 11, 8, __
 c) -3, __, 1, __, 5
 d) 50, 45, __, 35, __

You do - Independent practice questions to build confidence and skill

Available products.

Teacher Editions

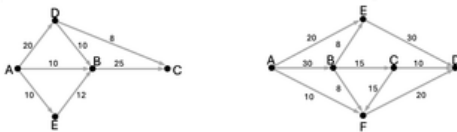
Full student workbooks with additional features **written in red**.

- All 'with your teacher' questions completed for you
- Tips and tricks
- Available in digital or physical format.

Student workbook

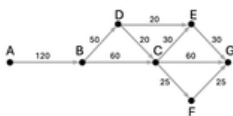
 With your teacher.

1. Find the maximum flow from source to sink in the following networks.



2. A highway network is represented by the graph below. Weights represent the capacity of different sections of the highway in cars per minute.

a. Find the maximum flow of traffic from A to G.



b. Authorities would like to improve traffic flow but wish to improve only one section of road. Which sections will bring about improvement?

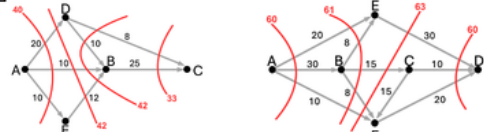
c. By how much would the overall flow improve if the section DE was to be upgraded to 60 cars/min?

- 60 -

Teacher Edition

 With your teacher.

1. Find the maximum flow from source to sink in the following networks.

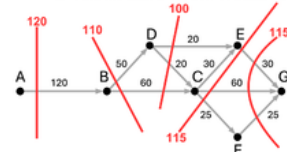


Network 1.
Minimum cut is 33 through DC and BC.
Maximum flow is 33 units.

Network 2.
Minimum cut is 60. Multiple minimum cuts indicate that the network contains more than one bottleneck. Even if one bottleneck is improved, another section may still limit the overall maximum flow.
Maximum flow is 60 units.

2. A highway network is represented by the graph below. Weights represent the capacity of different sections of the highway in cars per minute.

a. Find the maximum flow of traffic from A to G.



Maximum flow of traffic from A to G = 100 cars per minute.

b. Authorities would like to improve traffic flow but wish to improve only one section of road. Which sections will bring about improvement?

To improve overall traffic, authorities must improve roads that lie on the minimum cut. Any roads improved on the minimum cut (DE, DC or BC) will improve overall traffic. Improving roads NOT on the minimum cut will not improve traffic overall, as the bottleneck will remain.

c. By how much would the overall flow improve if the section DE was to be upgraded to 60 cars/min?

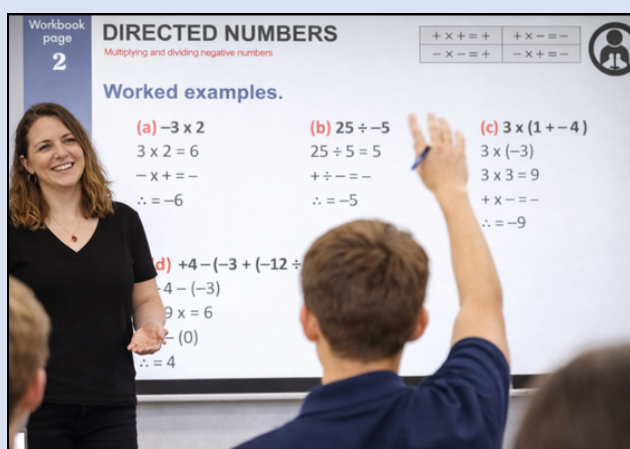
Section DE being upgraded changes which cut is now the minimum. The new minimum cut is 110. The overall flow has improved by 10 cars per minute.

- 60 -

Available products.

Supporting resources

Bertram Education offers a range of free resources to complement the course workbooks.



PowerPoint Presentations

support teaching by introducing key concepts, working through examples, and guiding students through each lesson. Designed to complement the workbooks, they provide teachers with a clear structure for each lesson.

Investigations provide opportunities for students to apply their mathematical understanding to authentic real-world situations through open-ended and collaborative tasks.



Investigation 2.

In this investigation, you will implement the statistical investigation process to answer the question: is there an association between height and foot length.

Step 1: Identify the problem and pose a statistical question

Is there an association between height and foot length?

Step 2: Collect or obtain data

Survey at least 15 people around you (classmates, friends, family, strangers on the internet). Record your results in the table below:

Person	Height	Foot length	Person	Height	Foot length

Bertram Education is continually expanding its online teacher resources. As new resources are developed and refined through classroom use, they will be made available to teachers via the website.

2027 price list

Student resources

\$65 Per course

GM2 includes all 5 units.

GM3 Includes 3 core units + 1 elective.
Additional electives are sold separately.

Teacher Editions

\$20 Per unit

Sold separately for each unit
and may be purchased individually
throughout the year.

Digital resources

\$12 Per unit

Student workbooks and Teacher Editions
are currently available through Kindle.
Each unit is sold separately.

Included resources

\$0

PowerPoint presentations
Investigations
Additional online teaching resources

FAQ's

Can the 2026 and 2027 versions be used together?

- No. There have been significant changes from 2026 to 2027.
- It is highly recommended the whole class uses the same version.
- There are a limited number of the 2026 version available for a discounted price if your school is interested in these.

Can schools place bulk orders?

- Yes. Schools can place a bulk order through the website or through Office National Hobart.

Can students order their own books?

- Yes. Individual orders are welcome via the website (a range of delivery methods are available), or Office National Hobart.

Can I view the books before purchasing?

- Sample packs are available to download from the website. Please contact us if you would like to view a specific chapter.

When should schools order?

- Schools that have registered their interest may place orders until mid-January and still be guaranteed delivery before the start of Term 1.

Still have a question? Visit BertramEducation.com and complete the online contact form. We're happy to help.

Planning for 2027

Next steps

Thank you for taking the time to explore the 2027 Bertram Education resources.

Please visit BertramEducation.com to:

- **Download** sample packs
- **Complete** the 'Planning for 2027' form
- **Contact us** if you have any questions.