



YEAR 7 & 9 NAPLAN DATA
ANALYSIS 2019+21
(VIA SCOUT)

HGHS STUDENTS CONSISTENTLY ACHIEVE EXTREMELY HIGH RESULTS



[Training](#) [Help](#) [Report Explanation](#)

Percentage in Band Category



Band Category

Bottom 2 Bands

Middle 2 Bands

Top 2 Bands

STEP 1: Select a group of students

Which school were they in?

Hornsby Girls High School

% Students in Band Category by Calendar Year

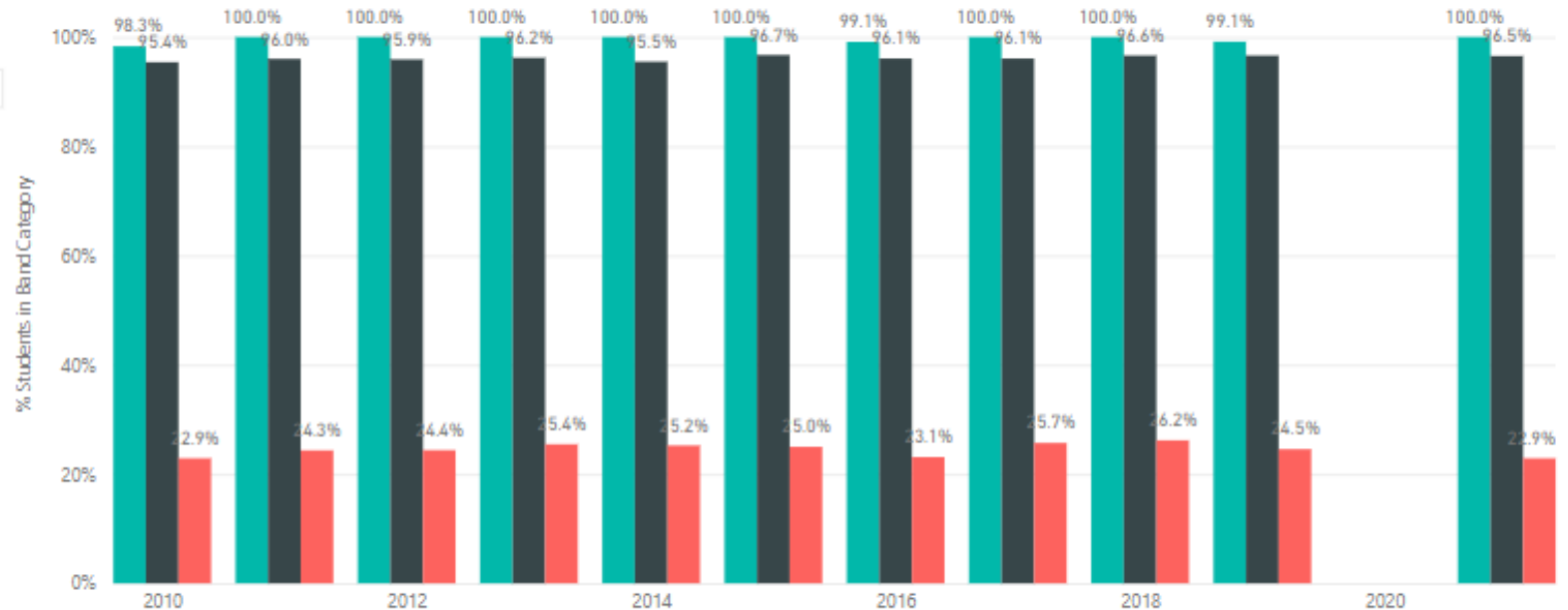
● School ● SSSG ● DoE

Which assessment?

NAPLAN 9

Which domain?

Numeracy



STEP 2: Optionally, select a subset of students

An enrolment type group?

All

A specific enrolment type?

All

EAL/D

All

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- **ALL Year 7 2019 NAPLAN Priority Syllabus Outcomes** *(Slide 3)*
- **ALL Year 7 2021 NAPLAN Priority Syllabus Outcomes** *(Slide 4)*
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- **ALL Year 9 2021 NAPLAN Priority Syllabus Outcomes** *(Slide 6)*
- **INDIVIDUAL Year 7 Medium-High Priority Syllabus Outcomes + Exemplars** *(Slide 7-13)*
- **INDIVIDUAL Year 9 Medium-High Priority Syllabus Outcomes + Exemplars** *(Slide 14-30)*

KEY

Occurs through 2 cohorts

Occurs through 3+ cohorts

2019 NAPLAN PRIORITY SYLLABUS OUTCOMES

Year 7 2019

Y7 2019 MEDIUM PRIORITY (65-80% correct)

- **Stage 2**
 - **MA2-9MG** (*measures, records, compares and estimates lengths, distances and perimeters in metres, centimetres and millimetres, and measures, compares and records temperatures*)
 - **MA2-6NA** (*uses mental and informal written strategies for multiplication and division*)
- **Stage 4**
 - **MA4-20SP** (*analyses single sets of data using measures of location and range*)

Y7 2019 HIGH PRIORITY (<65% correct)

- **Stage 4**
 - **MA4-19SP** (*collects, represents, and interprets single sets of data, using appropriate statistical displays*)

KEY

Occurs through 2 cohorts

Occurs through 3+ cohorts

2019 NAPLAN PRIORITY SYLLABUS OUTCOMES

Year 7 2021

Y7 2021 MEDIUM PRIORITY (65-80% correct)

- **Stage 2**
 - **MA2-15MG** (*manipulates, identifies, and sketches two-dimensional shapes, including special quadrilaterals, and describes their features*)
- **Stage 3**
 - **MA3-11MG** (*selects and uses the appropriate unit to estimate, measure, and calculate volumes and capacities*)
- **Stage 4**
 - **MA4-20SP** (*analyses single sets of data using measures of location and range*)

Y7 2021 HIGH PRIORITY (<65% correct)

- **Stage 4**
 - **MA4-19SP** (*collects, represents, and interprets single sets of data, using appropriate statistical displays*)

KEY

Occurs through 2 cohorts

Occurs through 3+ cohorts

2019 NAPLAN PRIORITY SYLLABUS OUTCOMES

Year 9 2019

Y9 2019 MEDIUM PRIORITY (65-80% correct)

- **Stage 3**

- **MA3-4NA** (*orders, reads, and represents integers of any size and describes properties of whole numbers*)
- **MA3-18SP** (*uses appropriate methods to collect data and constructs, interprets and evaluates data displays, including dot plots, line graphs and two-way tables*)

- **Stage 4**

- **MA4-13MG** (*uses formulas to calculate the areas of quadrilaterals and circles, and converts between units of area*)
- **MA4-15MG** (*performs calculations of time that involve mixed units, and interprets time zones*)
- **MA4-6NA** (*solves financial problems involving purchasing goods*)
- **MA4-20SP** (*analyses single sets of data using measures of location and range*)

- **Stage 5.2**

- **MA5.2-11MG** (*calculates the surface areas of right prisms, cylinders, and related composite solids*)

Y9 2019 HIGH PRIORITY (<65% correct)

- **Stage 3**

- **MA3-9MG** (*selects and uses the appropriate unit and device to measure lengths and distances, calculates perimeters, and converts between units of length*)
- **MA3-7NA** (*compares, orders, and calculates with fractions, decimals, and percentages*)

KEY

Occurs through 2 cohorts

Occurs through 3+ cohorts

2019 NAPLAN PRIORITY SYLLABUS OUTCOMES

Year 9 2021

Y9 2021 MEDIUM PRIORITY (65-80% correct)

- **Stage 3**
 - **MA3-11MG** (selects and uses the appropriate unit to estimate, measure, and calculate volumes and capacities)
 - **MA3-4NA** (orders, reads, and represents integers of any size and describes properties of whole numbers)
- **Stage 4**
 - **MA4-17MG** (classifies, describes and uses the properties of triangles and quadrilaterals, and determines congruent triangles to find unknown side lengths and angles)
 - **MA4-6NA** (solves financial problems involving purchasing goods)
 - **MA4-10NA** (uses algebraic techniques to solve simple linear and quadratic equations)
 - **MA4-20SP** (analyses single sets of data using measures of location and range)

• Stage 5.1

- **MA5.1-8MG** (calculates the areas of composite shapes, and the surface areas of rectangular and triangular prisms)
- **MA5.1-5NA** (operates with algebraic expressions involving positive-integer and zero indices, and establishes the meaning of negative indices for numerical bases)
- **MA5.1-6NA** (determines the midpoint, gradient and length of an interval, and graphs linear relationships)

• Stage 5.2

- **MA5.2-17SP** (describes and calculates probabilities in multi-step chance experiments)

Y9 2021 HIGH PRIORITY (<65% correct)

• Stage 3

- **MA3-13MG** (uses 24-hour time and AM and PM notation in real-life situations, and constructs timelines)

• Stage 5.1

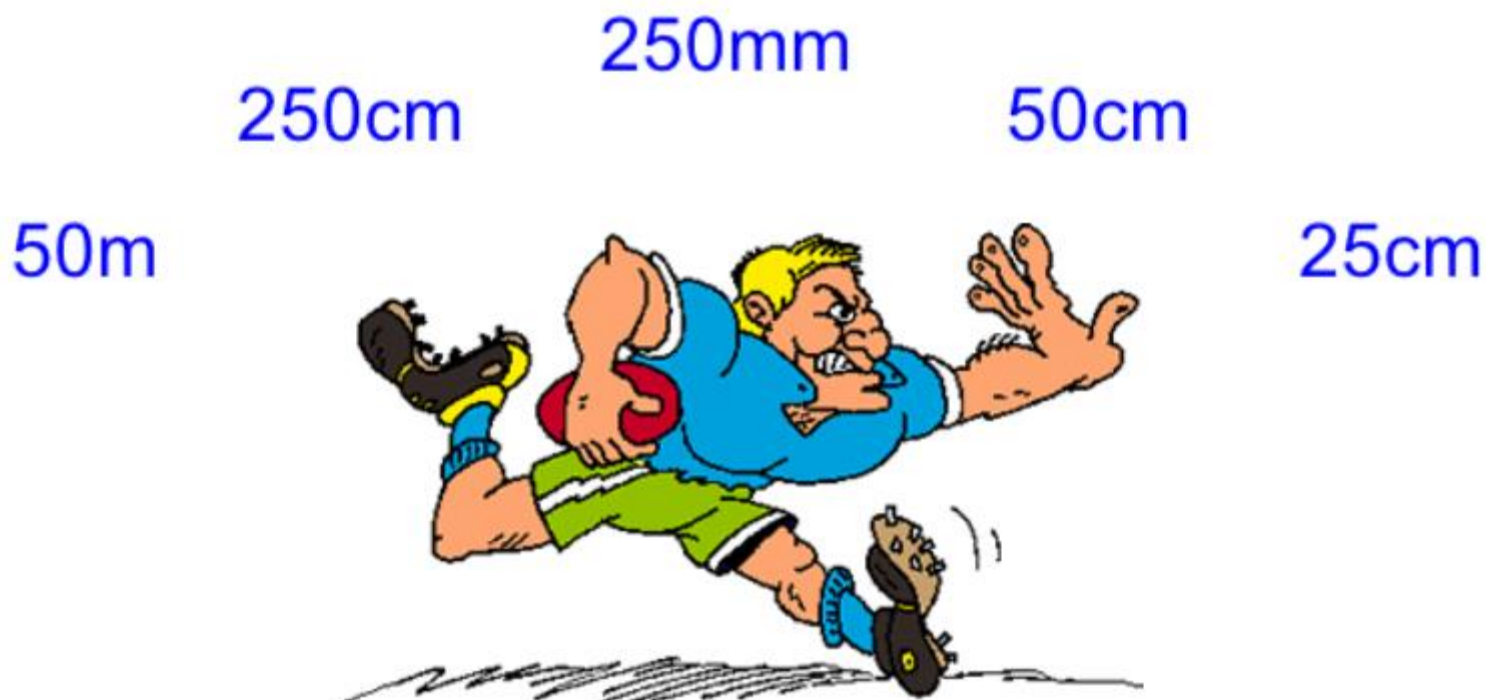
- **MA5.1-12SP** (uses statistical displays to compare sets of data, and evaluates statistical claims made in the media)

• Stage 5.2

- **MA5.2-11MG** (calculates the surface areas of right prisms, cylinders, and related composite solids)

INDIVIDUAL YEAR 7 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

Fast Freddie is one-quarter of a metre from the try line.
Click the measurements that are the same as one-quarter of a metre.



YEAR 7 2019: MEDIUM PRIORITY

- **MA2-9MG** (*measures, records, compares and estimates lengths, distances and perimeters in metres, centimetres and millimetres, and measures, compares and records temperatures*)

INDIVIDUAL YEAR 7 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

Nathan has 5 spy books and 3 adventure books.

Kevin has 4 times as many spy books and 4 times as many adventure books as Nathan.

Which of these expressions could be used to calculate the total number of spy books and adventure books Kevin has altogether?

Select **all** possible expressions.

$4 \times 5 + 3$

$4 \times (5 + 3)$

$(4 \times 5) + (4 \times 3)$

$(5 + 3) \times (4 + 4)$

YEAR 7 2019: MEDIUM PRIORITY

- MA2-6NA (uses mental and informal written strategies for multiplication and division)

INDIVIDUAL YEAR 7 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

On Monday, Amelia saw 24 birds.

On Tuesday, she saw twice as many birds as she saw on Monday.

On Wednesday, she saw one-third as many birds as she saw on Tuesday.

Which number sentence could Amelia use to work out the number of birds she saw on Wednesday?

- $24 \div 2 \times \frac{1}{3} = 4$
- $24 \times 2 \times \frac{1}{3} = 16$
- $24 \div 2 \div \frac{1}{3} = 36$
- $24 \times 2 \div \frac{1}{3} = 144$

YEAR 7 2019: MEDIUM PRIORITY

- MA2-6NA (uses mental and informal written strategies for multiplication and division)

INDIVIDUAL YEAR 7 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

For which of these survey questions does it make sense to calculate the mean of the responses?

Select **one** box beside **each** survey question.

| | Makes sense | Does not make sense |
|---------------------------------------|-------------------------------------|-------------------------------------|
| What is your house number? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| How many children are in your family? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| What is your favourite pet? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| What is your height? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

YEAR 7 2019: MEDIUM PRIORITY

Across multiple cohorts → ALL

Exemplar 1 of 1

- MA4-20SP (analyses single sets of data using measures of location and range)

INDIVIDUAL YEAR 7 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

Harry and Richard play tenpin bowls.

The stem-and-leaf plots show the scores of their last 15 games.

| Harry | |
|-------|---------|
| 15 | 0 4 |
| 16 | 1 2 8 |
| 17 | 3 4 6 7 |
| 18 | 1 1 2 8 |
| 19 | 2 9 |

| Richard | |
|---------|-------------|
| 15 | |
| 16 | 0 4 8 |
| 17 | 1 3 |
| 18 | 3 4 6 8 |
| 19 | 1 1 3 5 7 7 |

| KEY |
|--------------|
| 17 3 = 173 |

Select **all** the true statements about the data.

- Harry bowled the lowest score.
- Richard bowled the highest score.
- Harry bowled more games than Richard with a score over 175.
- The median score for Richard is higher than the median score for Harry.
- The range of scores for Harry is smaller than the range of scores for Richard.

YEAR 7 2019: HIGH PRIORITY

Across multiple cohorts → (Y7 '21)

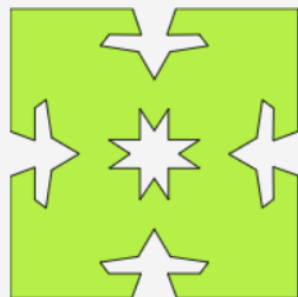
Exemplar 1 of 1

- **MA4-19SP** (*collects, represents, and interprets singles sets of data, using appropriate statistical displays*)

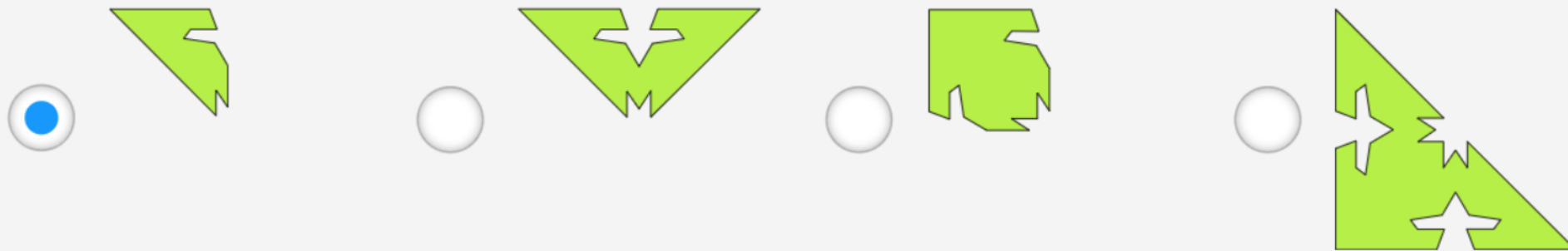
INDIVIDUAL YEAR 7 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

Amy folded a square piece of paper three times so that the folds showed all of its lines of symmetry.

She then cut shapes from the folded square to make the symmetrical shape below.



What did the folded square look like before Amy unfolded it?



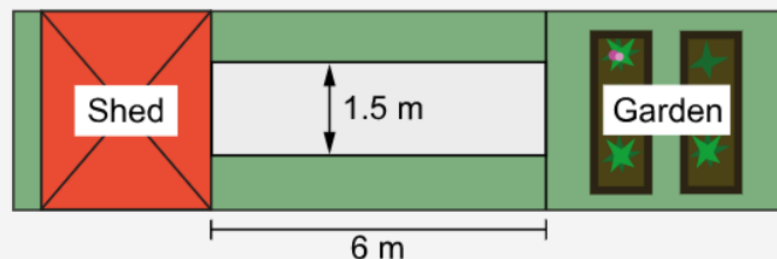
YEAR 7 2021: MEDIUM PRIORITY

- **MA2-15MG** (*manipulates, identifies, and sketches two-dimensional shapes, including special quadrilaterals, and describes their features*)

INDIVIDUAL YEAR 7 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

Logan built a concrete path connecting his shed to his garden.

The path was rectangular, with a width of 1.5 metres and a length of 6 metres.



not to scale

If the path was 10 centimetres thick, how many cubic metres of concrete did Logan use to build the path?

- 0.9 m³
- 9 m³
- 90 m³
- 900 m³

YEAR 7 2021: MEDIUM PRIORITY

- **MA3-11MG** (*selects and uses the appropriate unit to estimate, measure, and calculate volumes and capacities*)

Across multiple cohorts → Y9 '21

Exemplar 1 of 1

INDIVIDUAL YEAR 9 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

Kim and Pete are running up a staircase with 20 steps.

- They both start at the bottom of the staircase.
- Kim takes 2 steps at a time.
- Pete takes 3 steps at a time.

How many steps will **both** Kim and Pete tread on?

- 2
- 3
- 4
- 5
- 6

YEAR 9 2019: MEDIUM PRIORITY

- **MA3-4NA** (*orders, reads, and represents integers of any size and describes properties of whole numbers*)

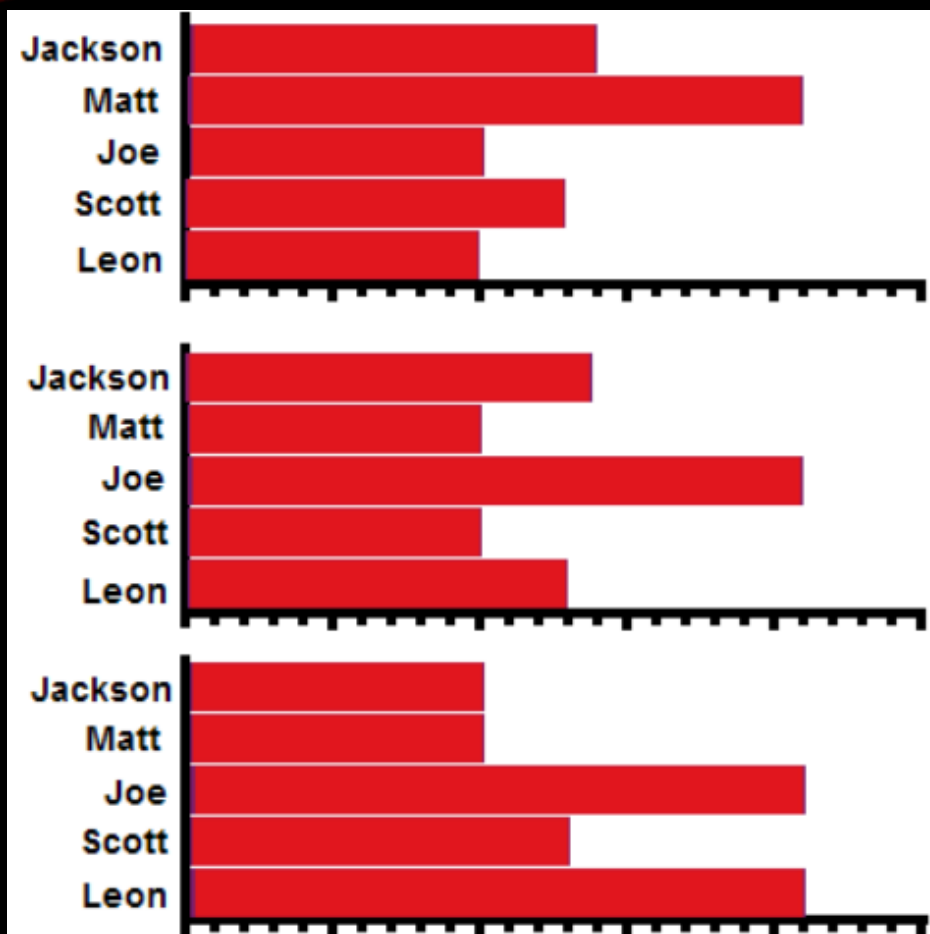
Across multiple cohorts → Y9 '21

Exemplar 1 of 1

INDIVIDUAL YEAR 9 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

Which graph correctly shows the data in this table?
Click to choose.

| Name | No. of flies caught |
|---------|---------------------|
| Leon | 13 |
| Scott | 10 |
| Joe | 21 |
| Matt | 10 |
| Jackson | 14 |



The image displays three horizontal bar graphs, each representing a different data set for the same five individuals: Jackson, Matt, Joe, Scott, and Leon. The data from the table is as follows:

| Name | No. of flies caught |
|---------|---------------------|
| Leon | 13 |
| Scott | 10 |
| Joe | 21 |
| Matt | 10 |
| Jackson | 14 |

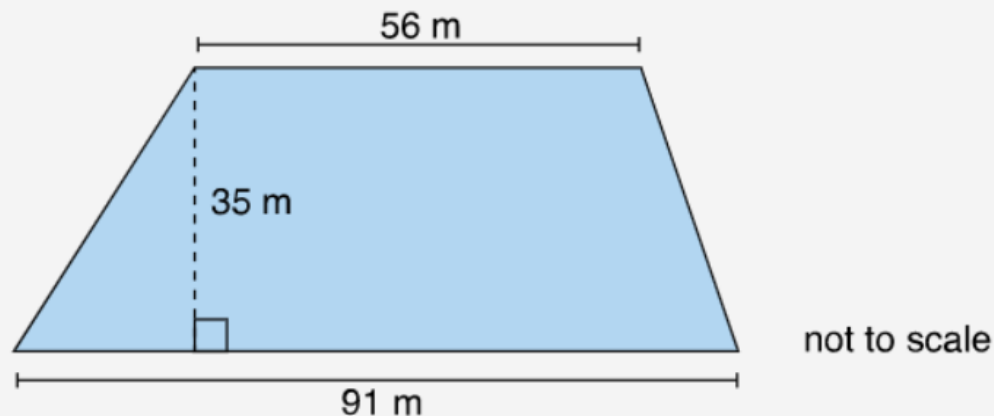
The first graph shows Jackson (14), Matt (10), Joe (21), Scott (10), and Leon (13). The second graph shows Jackson (14), Matt (10), Joe (21), Scott (10), and Leon (13). The third graph shows Jackson (14), Matt (10), Joe (21), Scott (10), and Leon (13).

YEAR 9 2019: MEDIUM PRIORITY

- **MA3-18SP** (*uses appropriate methods to collect data and constructs, interprets and evaluates data displays, including dot plots, line graphs and two-way tables*)

INDIVIDUAL YEAR 9 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

The new animal enclosure at the zoo is in the shape of a trapezium. This aerial view shows the dimensions of the enclosure.



What is the area of the new animal enclosure, in square metres?

2572.5

square metres

YEAR 9 2019: MEDIUM PRIORITY

- **MA4-13MG** (uses formulas to calculate the areas of quadrilaterals and circles, and converts between units of area)

INDIVIDUAL YEAR 9 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

Four cyclists competed in a 3000-metre race.

Their times were recorded at the halfway mark and at the end of the race.

The times were recorded in minutes and seconds, and were accurate to one-hundredth of a second.

| | Time for first half (minutes : seconds) | Time for whole race (minutes : seconds) |
|-------|--|--|
| Steve | 2:03.74 | 4:03.97 |
| Peter | 1:59.11 | 4:01.92 |
| Ben | 1:56.70 | 3:59.66 |
| Mick | 1:50.30 | 3:53.44 |

Which cyclist had the fastest time for the second half of the race?

- Steve
- Peter
- Ben
- Mick

YEAR 9 2019: MEDIUM PRIORITY

- **MA4-15MG** (*performs calculations of time that involve mixed units, and interprets time zones*)

INDIVIDUAL YEAR 9 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

Sophia wants to buy the type of pasta that is the best value.

Which type of pasta costs the least per gram?

- Pasta shells: 150 grams for \$2
- Pasta spirals: 250 grams for \$2
- Spaghetti: 400 grams for \$3
- Fettuccine: 500 grams for \$5

YEAR 9 2019: MEDIUM PRIORITY

Across multiple cohorts → Y9 '21

- **MA4-6NA** (*solves financial problems involving purchasing goods*)

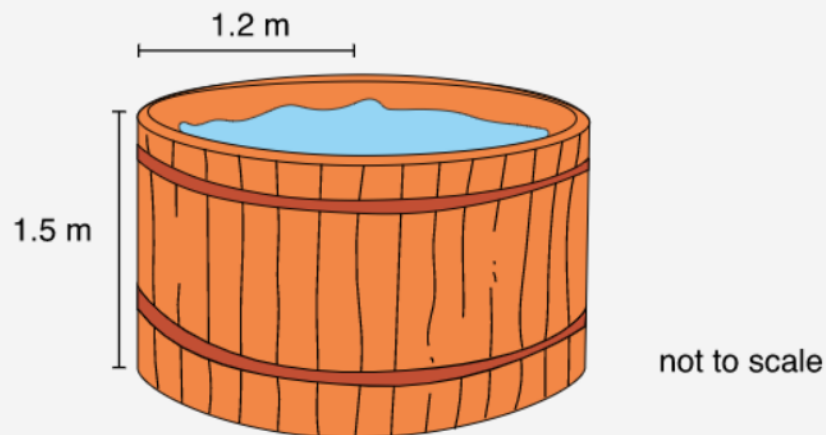
Exemplar 1 of 1

INDIVIDUAL YEAR 9 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

An outdoor spa tub is in the shape of a cylinder.

The spa tub has a radius of 1.2 metres.

A hose delivers 22.5 litres of water per minute to fill the tub to a depth of 1.5 metres.



Approximately how long will it take to fill the spa to a depth of 1.5 metres?



1 hour



3 hours



5 hours



6 hours

YEAR 9 2019: MEDIUM PRIORITY

Across multiple cohorts → Y9 '21

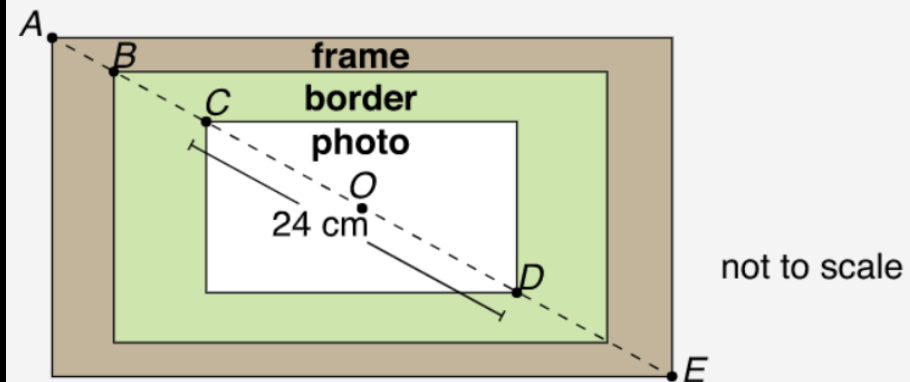
Exemplar 1 of 1

- **MA5.2-11MG** (calculates the surface areas of right prisms, cylinders, and related composite solids)

INDIVIDUAL YEAR 9 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

Alf is designing a frame for a photo.

The length of the diagonal of the photo, CD , is 24 cm.



He centres the rectangular border and frame about O .

Alf makes $OB = 1.5 \times OC$ and $BC = 2 \times AB$.

What is the length of the frame's diagonal, AE ?

42 cm

YEAR 9 2019: HIGH PRIORITY

- **MA3-9MG** (*selects and uses the appropriate unit and device to measure lengths and distances, calculates perimeters, and converts between units of length*)

INDIVIDUAL YEAR 9 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

Anne downloads a film.

It should take 12 minutes to download the film completely.

Anne loses her internet connection when $\frac{2}{3}$ of the film has downloaded.

How many **more** minutes are needed to complete the download?

- $\frac{1}{3}$ of a minute
- 4 minutes
- 8 minutes
- $11\frac{1}{3}$ minutes

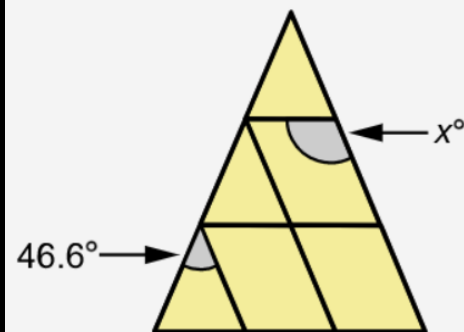
YEAR 9 2019: HIGH PRIORITY

- **MA3-7NA** (*compares, orders, and calculates with fractions, decimals, and percentages*)

INDIVIDUAL YEAR 9 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

Angela is designing a glass window in the shape of an isosceles triangle.

She uses three identical, smaller isosceles triangles and three identical parallelograms in her design.



The top angle on one of the smaller triangles measures 46.6° .

What is the value of x ?

Give your answer to one decimal place.

$^\circ$

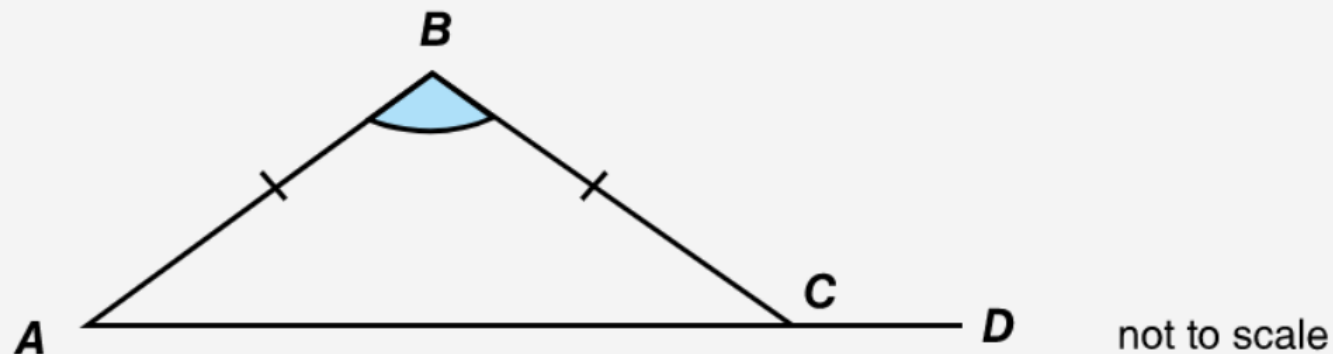
YEAR 9 2021: MEDIUM PRIORITY

- **MA4-17MG** (*classifies, describes and uses the properties of triangles and quadrilaterals, and determines congruent triangles to find unknown side lengths and angles*)

INDIVIDUAL YEAR 9 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

Triangle ABC is an isosceles triangle, where AB and BC are equal in length.

Points A , C and D all lie on the same line segment



If $\angle DCB$ is 145° , what is the size of the shaded angle, $\angle ABC$?

110

$^\circ$

YEAR 9 2021: MEDIUM PRIORITY


- **MA4-17MG** (*classifies, describes and uses the properties of triangles and quadrilaterals, and determines congruent triangles to find unknown side lengths and angles*)

INDIVIDUAL YEAR 9 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

In Ancient Egypt, the symbol  represented a specific value.

The equation below uses this symbol along with our modern symbols for numbers and operations.

$$12 \times \text{ⲛ} - 3 = 8 \times \text{ⲛ}$$

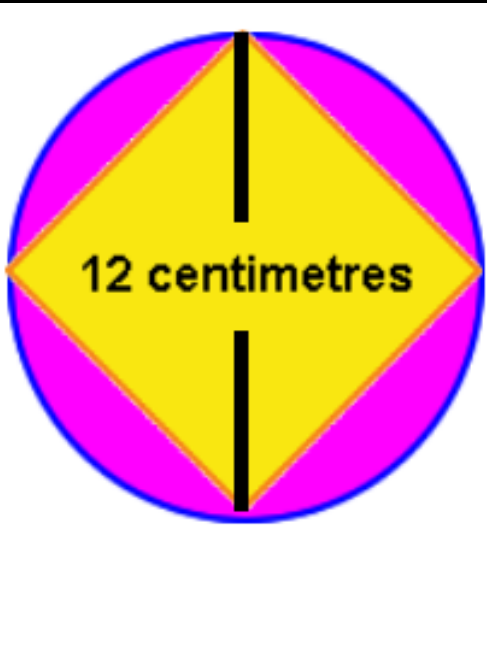
What is the value of the symbol ?

Give your answer as a decimal to two decimal places.

YEAR 9 2021: MEDIUM PRIORITY

- MA4-10NA (*uses algebraic techniques to solve simple linear and quadratic equations*)

INDIVIDUAL YEAR 9 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS



The diameter of the circle is 12cm.

What is the area of the square?

YEAR 9 2021: MEDIUM PRIORITY

- **MA5.1-8MG** (*calculates the areas of composite shapes, and the surface areas of rectangular and triangular prisms*)

INDIVIDUAL YEAR 9 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

Ellie is studying the growth of bacteria.

She begins with a colony of 10 bacteria and notices that the colony doubles every hour.

Ellie writes a formula to show C , the number of bacteria in the colony, h hours after starting.

Which of these formulas could Ellie use to correctly calculate the number of bacteria present at a given time?



$$C = 10 \times 2^h$$



$$C = 10 \times h^2$$



$$C = 2^{10h}$$



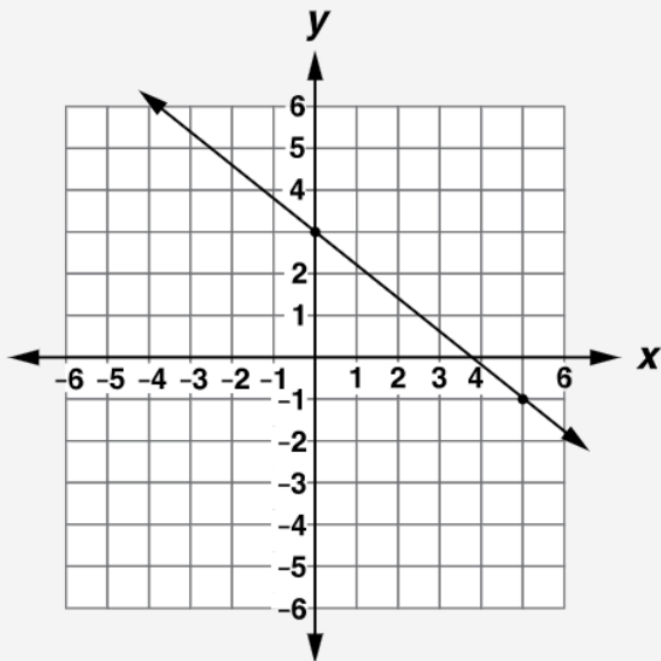
$$C = 10^{2h}$$

YEAR 9 2021: MEDIUM PRIORITY

- **MA5.1-5NA** (*operates with algebraic expressions involving positive-integer and zero indices, and establishes the meaning of negative indices for numerical bases*)

INDIVIDUAL YEAR 9 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

Flynn plotted the points $(0, 3)$ and $(5, -1)$ and drew the line through these points.



What is the gradient of the line that Flynn drew?



$\frac{5}{4}$



$\frac{4}{5}$



$-\frac{4}{5}$



$-\frac{5}{4}$

YEAR 9 2021: MEDIUM PRIORITY

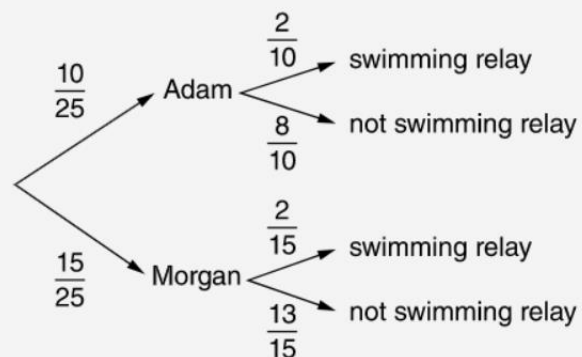
- **MA5.1-6NA** (*determines the midpoint, gradient and length of an interval, and graphs linear relationships*)

INDIVIDUAL YEAR 9 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

A swimming team has 25 swimmers and 2 coaches, Adam and Morgan.

Adam trains 10 swimmers and Morgan trains 15 swimmers.

Each coach will randomly choose 2 swimmers to swim in the relay.



Henry is one of the swimmers in the swimming team.

What is the probability that Henry will swim in the relay?

Give your answer to two decimal places.

0.16

YEAR 9 2021: MEDIUM PRIORITY

- **MA5.2-17SP** (*describes and calculates probabilities in multi-step chance experiments*)

INDIVIDUAL YEAR 9 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

Ann arrived at Wickham Station at 11:00 and caught the next train to Pemberley Station.

| Station | Train A | Train B | Train C | Train D |
|-----------|---------|---------|---------|---------|
| Bennet | 10:53 | 11:07 | 11:12 | — |
| Wickham | 10:59 | 11:13 | — | 11:31 |
| Bingley | 11:14 | — | 11:33 | 11:46 |
| Rosling | 11:19 | 11:30 | — | 11:51 |
| Pemberley | 11:29 | — | 11:48 | 12:01 |

At what time did she arrive at Pemberley Station?

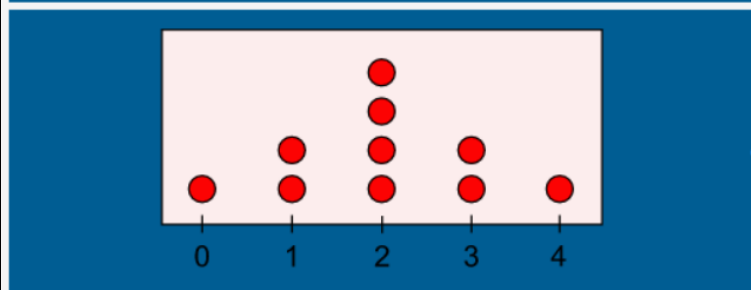
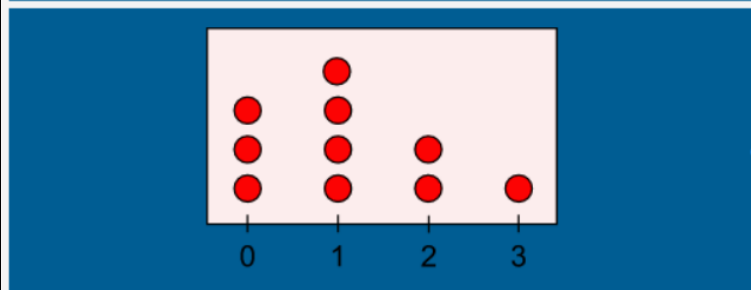
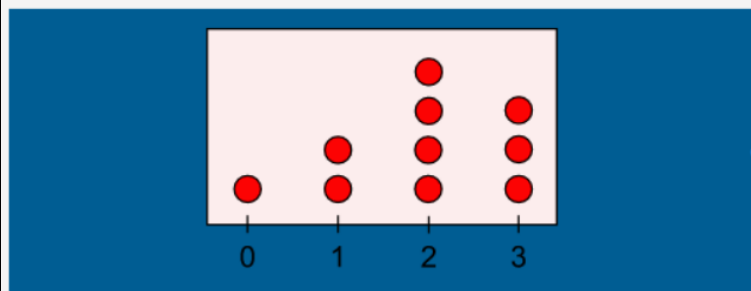
- 11:29
- 11:30
- 11:48
- 12:01

YEAR 9 2021: HIGH PRIORITY

- MA3-13MG (uses 24-hour time and AM and PM notation in real-life situations, and constructs timelines)

INDIVIDUAL YEAR 9 MEDIUM-HIGH PRIORITY SYLLABUS OUTCOMES + EXEMPLAR QUESTIONS

Match each of these graphs to the best description of each distribution.



It is positively skewed.

It is negatively skewed.

It is symmetrical.

YEAR 9 2021: HIGH PRIORITY

- **MA5.1-12SP** (*uses statistical displays to compare sets of data, and evaluates statistical claims made in the media*)

REFORM & ISSUES

- **Suggestions/considerations/issues for reform:**
 - Ongoing revision of teaching programs to address areas of relative weakness
 - Raising staff awareness of areas of relative weakness
 - Embedding NAPLAN style practice questions into Year 7-10 topics
 - Future implementation of new Year 3-10 syllabus
 - Will this contribute to mass changes in our programs?
 - Changing the order of topics in programs?
 - Quite a few of the '**HIGH PRIORITY**' syllabus outcomes are not covered prior to NAPLAN. If we move topics to be done earlier, this only pushes other topics back.