Full name: _____

Teacher: _____

Due date: _____

YEAR 9 MATHEMATICS

Assignment

2020

Outcomes Assessed		
Working Mathematically: • **MA5.1WM Use appropriate terminology, diagrams and symbols in mathematical contexts** • **MA5.1-2WM Select and use appropriate strategies to solve problems** • **MA5.1-3WM Provide reasoning to support conclusions that are appropriate to the context** • **MA5.2-1WM Select appropriate notations and conventions to communicate mathematical ideas and solutions** • **MA5.2-2WM Interpret mathematical or real-life situations, systematically applying appropriate strategies to solve problems** **Cross Curricular:** • **EN5-1A responds to and composes increasingly sophisticated and sustained texts for understanding, interpretation, critical analysis, imaginative expression and pleasure** • **GE5-2 explains processes and influences that form and transform places and environments** • **PD5-5 appraises and justifies choices of actions when solving complex movement challenges**		
Content Assessed		
Refer to the attached assignment booklet and instructions. Each student is to complete tasks of their choosing.		
Weighting	**15%**	**Due: _____** This assignment is due to your classroom teacher 2 weeks from the date received (due in Week 7).
Penalties as per assessment booklet – Failure to submit the assignment within the negotiated time frame may result in N-award in Mathematics.		

Gardner's Multiple Intelligences and Revised Blooms Taxonomy

This assignment has been designed to give all students an opportunity to best demonstrate their ability in Mathematics. Students can choose from tasks aligned to the different categories of Gardner's Multiple intelligences. The tasks are also aligned to the Revised Bloom's Taxonomy - a multi-tiered model of classifying thinking according to six cognitive levels of complexity.

Thus, students can choose tasks according to their preferred modes of learning, or try different styles of learning. Students are also able to revise and explore key concepts of this unit by completing lower-order tasks and then challenge themselves to develop their understanding and skills by completing higher-order tasks.

Instructions

You do not have to answer all the questions!

Each box in the Task Grid (on the next page) is a task.

1. **9MA1 and 9MA2** must include at least two tasks from the *creating* and at least two tasks from the *evaluating* column as part of their **35 marks**.
2. **9MA3 and 9MA4** must include at least one task from the *creating* and at least one task from the *evaluating* column as part of their **30 marks**.
3. **9MA5, 9MA6, 9MA7 and 9MA8** must complete a total of **25 marks**.
4. Most tasks will require you to write your answers on separate A4 paper that you will need to provide. Please clearly write your full name and the task number. Answer in sequential order. Use a separate sheet of A4 paper for each question.
5. Please highlight on the Task Grid which tasks you are completing.

Marking

Marks are awarded based on the difficulty and amount of work required to complete each task. Marking guidelines are provided under each task description.

Task Grid

Multiple Intelligences	Bloom's Taxonomy: Six Thinking Levels					
	Knowing	**Understanding**	**Applying**	**Analysing**	**Creating**	**Evaluating**
Verbal/Linguistic I enjoy reading, writing & speaking	1) Terminology **1 mark**	2) Sport vs Sport **2 marks**	3) Olympic Games Maths **3 marks**	4) How many medals? **3 marks**	5) Angles in sports **3 marks**	6) Triathlon **4 marks**
Logical/ Mathematical I enjoy working with numbers & science	7) How many laps? **1 mark**	8) Revenue raised – Tokyo Aquatic Centre **2 marks**	9) How much chlorine? **3 marks**	10) Taxes on sponsorship **4 marks**	11) Costs **5 marks**	12) Outside lane vs inside lane **5 marks**
Visual/Spatial I enjoy painting, drawing & visualising	13) Medal Tally **2 marks**	14) Interpreting a Sector Graph **3 marks**	15) Target probability **4 marks**	16) How many competitors? **4 marks**	17) Olympic Village **3 marks**	18) Cost and Profit **6 marks**
Bodily/Kinaesthetic I enjoy doing hands-on activities, sports & dance	19) How do you compare? **1 mark**	20) Can you do it too? **2 marks**	21) Design your own **2 marks**	22) You vs Usain **4 marks**	23) You are in the Olympic Games! **4 marks**	24) Measuring success **3 marks**
Technology I enjoy using computers	25) Research **1 mark**	26) Time Zones **3 marks**	27) Kahoot **3 marks**	28) Soccer Game **4 marks**	29) Design an Advertisement **3 marks**	30) Record breakers **3 marks**

Task Details

Verbal/Linguistic

1) Terminology (1 mark)
List a minimum of 10 terms used in the Olympic Games that relate to Mathematics.

Marking	
1 mark	10 or more terms used in the Olympic Games that are listed that relate Mathematics

2) Sport vs Sport (2 marks)
The following is the list of the number of Australian competitors participating at the Olympic Games per sport/discipline.

Sport	Men	Women	Total
Basketball	12	12	24
Boxing	8	5	13
Diving	6	8	14
Field Hockey	18	18	36
Lawn Bowls	11	6	17
Netball	0	12	12
Triathlon	4	4	8
Weightlifting	8	8	16
Total	**67**	**73**	**140**

a) What percentage of the competitors in diving are female?

b) What percentage of the male competitors compete in lawn bowls?

Marking	
1 mark	Correct answer part A with adequate working
1 mark	Correct answer part B with adequate working

3) Olympic Games Maths (3 marks)
Complete the following worksheet, showing all working out where necessary.

Marking	
1/2 mark	Per question

1) The warmup space on a training field is 10m long and 6m wide.

   a. What is the area of the warmup space?

   _____

   _____

   b. What is the perimeter of the warmup space?

   _____

   _____

2) Danielle jumped 1.45m in the high jump competition.

   a. If Suzie jumped 6cm more than Danielle, how high did Suzie jump?

   _____

   _____

   b. What is the total height of the 3 jumps?

   _____

   _____

3) 160 people were surveyed about which country they thought would win the most gold medals at the Olympic Games. 20% said China and 65% said USA, while 10% said Great Britain.

   a. How many people surveyed said China would win the most gold medals?

   _____

   _____

   b. How many people surveyed believe neither China, USA or Great Britain will win the most gold?

   _____

   _____

4) How many medals? (3 marks)

Given the following clues, can you work out the number of gold, silver and bronze medals that Switzerland, Japan and France have won?

- France has 1 more gold medal, but 3 fewer silver medals, than Japan.
- Switzerland has the most bronze medals (18), but fewest gold medals (7).
- Each country has at least 6 medals of each type.
- Japan has 27 medals in total.
- Japan has 2 more bronze medals than gold medals.
- The three countries have 38 bronze medals in total.
- Switzerland has twice as many silver medals as Japan has gold medals.

Display your results in the table as below.

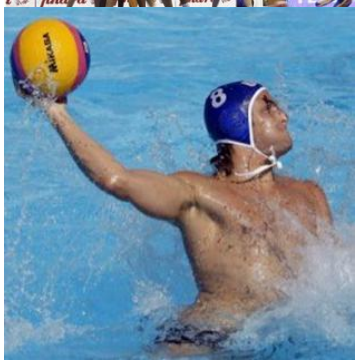
	Gold	**Silver**	**Bronze**	**Total**
France				
Switzerland				
Japan				

Marking	
1 mark	France medals correct
1 mark	Switzerland medals correct
1 mark	Japan medals correct

5) Angles in sports (3 marks)

Here are pictures of various sports:



What angles do you notice in these pictures?

Your task is to create a poster (A4 size) of someone participating in your favourite Olympic Game sport. The poster should include 4 different types of angles (i.e. obtuse, acute, straight, reflex, revolution) and explain how they are used in the sport you chose.

Marking	
3 marks	Poster includes 4 different types of angles and have a clear explanation of where these are observed in this sport.
2 marks	Poster includes 4 different types of angles that can be observed in this sport but with minimal explanation.
1 mark	Poster doesn't include 4 different types of angles, or the angles are not related to that sport.

6) Triathlon (4 marks)

The triathlon event consists of three legs: 750m swim, 20km bike, and 5km run. The first person to finish wins the event. Look at the following triathlon results from the 2016 Rio de Janeiro Olympic Games. You can access an Excel spreadsheet via this URL:

https://www.triathlon.org/results/result/2016_rio_de_janeiro_olympic_games/305290

Write a brief paragraph (200 words) answering the following question:

Do you think the triathlon will be won by someone who is very strong in one event and average in the other two, or someone who is strong in all three disciplines?

Use mathematical calculations to justify your reasoning. What do you notice about the results? What relationships/correlations can you find?

Hint: you may find it useful to sort the results in various ways, work out averages, plot graphs, etc. to see if you can identify any correlations.

ATHLETE FIRST	ATHLETE LAST	NATIONALITY	START NUMBER	SWIM	BIKE	RUN	POSITION	TOTAL TIME
Alistair	Brownlee	GBR	5	00:17:24	00:55:04	00:31:09	1	01:45:01
Jonathan	Brownlee	GBR	6	00:17:24	00:55:04	00:31:16	2	01:45:07
Henri	Schoeman	RSA	2	00:17:25	00:55:01	00:31:50	3	01:45:43
Richard	Murray	RSA	1	00:18:20	00:55:35	00:30:34	4	01:45:50
Joao	Pereira	POR	11	00:18:03	00:55:52	00:30:38	5	01:45:52
Marten	Van Riel	BEL	15	00:17:27	00:55:03	00:32:10	6	01:46:03
Vincent	Luis	FRA	18	00:17:26	00:55:04	00:32:21	7	01:46:12
Mario	Mola	ESP	56	00:17:37	00:56:18	00:31:12	8	01:46:26
Aaron	Royle	AUS	9	00:17:26	00:55:05	00:32:47	9	01:46:42
Ryan	Bailie	AUS	7	00:17:31	00:56:11	00:31:53	10	01:47:02
Richard	Varga	SVK	49	00:17:18	00:55:10	00:33:26	11	01:47:17
Crisanto	Grajales	MEX	23	00:17:59	00:55:52	00:32:13	12	01:47:28
Kristian	Blummenfelt	NOR	25	00:17:39	00:56:12	00:32:17	13	01:47:31
Alessandro	Fabian	ITA	46	00:17:22	00:55:07	00:33:37	14	01:47:35
Tyler	Mislawchuk	CAN	52	00:17:31	00:56:23	00:32:33	15	01:47:50
Andrea	Salvisberg	SUI	20	00:17:28	00:55:04	00:34:00	16	01:47:56
Ryan	Sissons	NZL	36	00:17:34	00:56:20	00:32:45	17	01:48:01
Fernando	Alarza	ESP	54	00:18:05	00:56:23	00:32:11	18	01:48:08
Sven	Riederer	SUI	19	00:17:48	00:56:03	00:33:00	19	01:48:15

Marking	
1 mark	Answers question but is incomplete
2 marks	Detailed answer but little/no mathematical justification
3 marks	Incomplete paragraph with strong mathematical justification
4 marks	Detailed answer with strong mathematical justifications

Logical/Mathematical

7) How many laps? (1 mark)

To run one lap of an athletics track, you must run 400m. If you were to compete in the 10km race, how many laps of the track would you need to complete? (Show all working)

Marking	
1 mark	Calculated the number of laps needed correctly and with adequate working shown.

8) Revenue Raised –Tokyo Aquatics Centre (2 marks)

The Tokyo Aquatics Centre will host the swimming and diving during the Olympic Games. Below is a table outlining the ticket prices for each swimming session and seating category.

Use the table to answer the question below.

Swimming Ticket Pricing - All Sessions

	Category A		Category B		Category C		Category D	
	Adult	Child	Adult	Child	Adult	Child	Adult	Child
Swimming (Prelim)	$80	$40	$60	$30	$20	$10	n/a	n/a
Swimming (Finals)	$120	n/a	$80	n/a	$40	$20	n/a	n/a

Assuming Tokyo Aquatics Centre was at full capacity (48,000 spectators) at a Prelim Event, how much revenue would the Olympic Games earn if the following occurs:

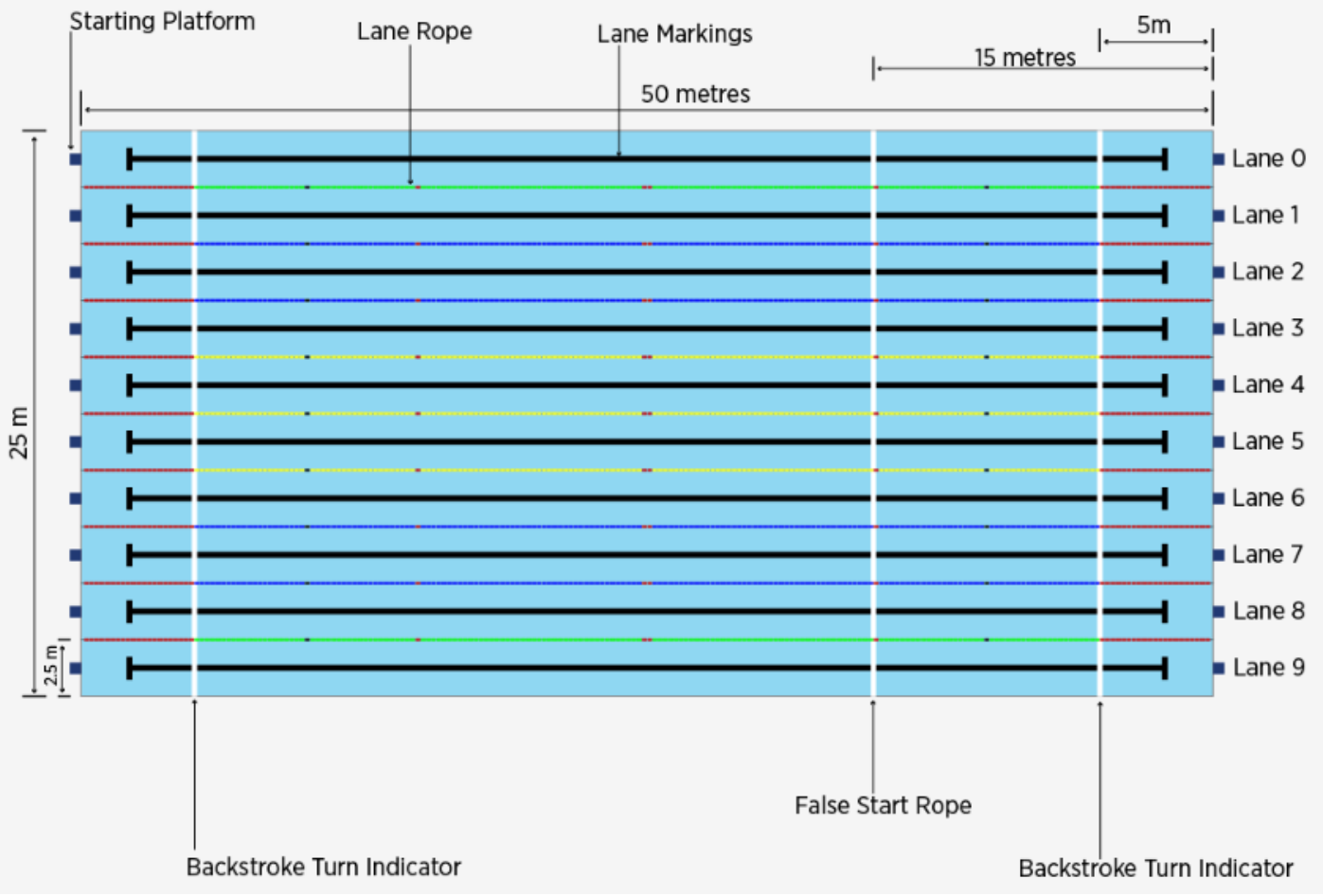
- 10% of the tickets purchased were Category A
- 25% of the tickets purchased were Category B
- 65% of the tickets purchased were Category C

Show all working.

Marking	
2 marks	Student have found the correct revenue with all calculations shown.
1 mark	Some calculations correct or a correct answer with no working shown.

9) How much chlorine? (3 marks)

The Tokyo Aquatic Centre will host the swimming and diving events at the Olympic Games. There is one Olympic sized swimming pool in the centre that will need to be refilled. This pool has 10 lanes, each 2.5m wide and is 2m deep. A diagram of the pool is shown below.



a) Calculate the volume of the pool in litres, showing all working.

b) If the pool requires 100mg of chlorine for every litre of water to be added to the pool per day, calculate the amount of chlorine needed over the two weeks of competition.

Marking	
1 mark	Part a) answered correctly with all working shown.
2 marks	Part b) answered correctly with adequate working shown.

10) Taxes on sponsorship (4 marks)

The taxman comes for everyone, even star athletes. Use the following tax table to answer the questions below:

Taxable income	Tax on this income
0 – $18,200	Nil
$18,201 – $37,000	19c for each $1 over $18,200
$37,001 – $90,000	$3,572 plus 32.5c for each $1 over $37,000
$90,001 – $180,000	$20,797 plus 37c for each $1 over $90,000
$180,001 and over	$54,097 plus 45c for each $1 over $180,000

Assume an athlete wins multiple gold medals at the Olympic Games and receives a $1,000,000 per year sponsorship from an Australian company.

a) Use the tax table to calculate how much this athlete will have to pay in taxes from this sponsorship.

b) How would their tax payable differ if they were able to claim $100,000 in deductions for training-related expenses and $5,000 in charitable donations.

Marking	
2 marks	Part a) answered correctly with adequate working shown.
2 marks	Part b) answered correctly with adequate working shown.

11) Costs (5 marks)

For each day of the Olympics it will cost the following to run:

ITEM	STAFF COSTS	POWER/MAINTENANCE	TOTAL PER DAY
Stadium	$100	$60	$160
Accommodation Block	$100	$60	$160
Restaurant/Café	$50	$40	$90
Shop	$40	$40	$80
Doctor/Physio/Pharmacy	$50	$30	$80
Power Station	$40	$30	$70
Train Station	$40	$30	$70
Any other building	$40	$30	$70

Answer the following questions:

a) How much will it cost to run the Olympic park for one day?

b) How much will it cost to run the Olympic park for one fortnight?

c) Imagine the Olympics ran for one year, how much would it cost?

d) How much will it cost to run the Olympic park per hour?

e) Create a sector graph showing the daily costs.

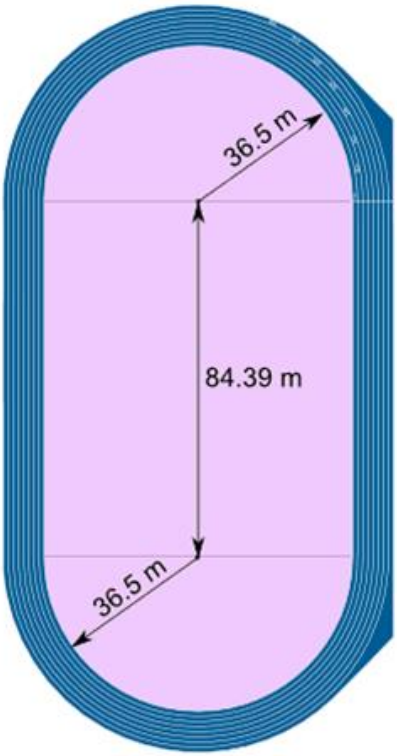
Marking	
1 mark	Part a) correct answer with working
1 mark	Part b) correct answer with working
1 mark	Part c) correct answer with working
1 mark	Part d) correct answer with working
1 mark	Part e) correct sector graph that is drawn correctly

12) Outside lane vs inside lane (5 marks)

All athletics tracks at the professional level must satisfy the following specifications:

- The distance around the inside edge of the inner lane should be 400m.
- There should be 8 lanes.
- Each lane should be 1.25m wide.
- The track should consist of two straight sections joined by two semi-circular sections.
- The straight sections should each be 84.39m in length.

Pictured below is a diagram showing some of these dimensions on the track.



Marking	
2 marks	Part a) Correct circumference with all working
2 mark	Part b) Correct calculation with all working. Also found the difference vs inner lane circumference
1 mark	Part c) Correctly staggered out the difference between all 8 lanes

The inside lane, “Lane 1” should be 400m long. When calculating the distance, the rules state that you measure 0.3 m from the inner edge of the lane as this is the “running position”.

a) Calculate the length of the track if you were running in the inside lane. Show all calculations.
Is it exactly 400m in length?

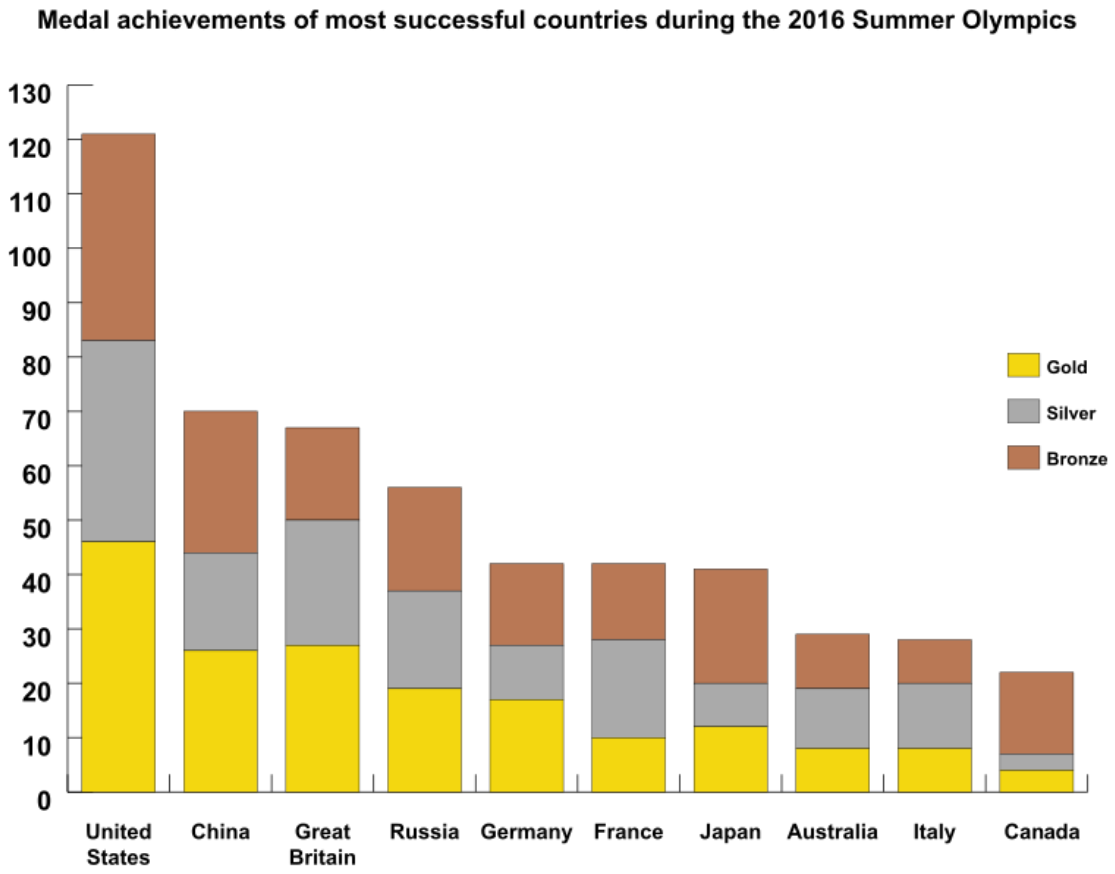
b) If you are designated any other lane you are given a “head start” as you have to run further around the track. If this head start did not exist, how much further would you have to run if you were designated lane 8 (the outside lane)?

c) A staggered start is used to ensure a fair race. This means that competitors in the outer lanes get this “head start”. Knowing there are 8 lanes, and the distance between the inside lane and outside lane, calculate how far apart the competitors in each lane should be to ensure it is fair.

Visual/Spatial

13) Medal Tally (2 marks)

The medal tally of the top performing countries in the 2016 Rio Olympics is shown below. Use the graph to answer the following questions.



a) How many gold medals did France achieve?

b) Which country achieved the most silver medals?

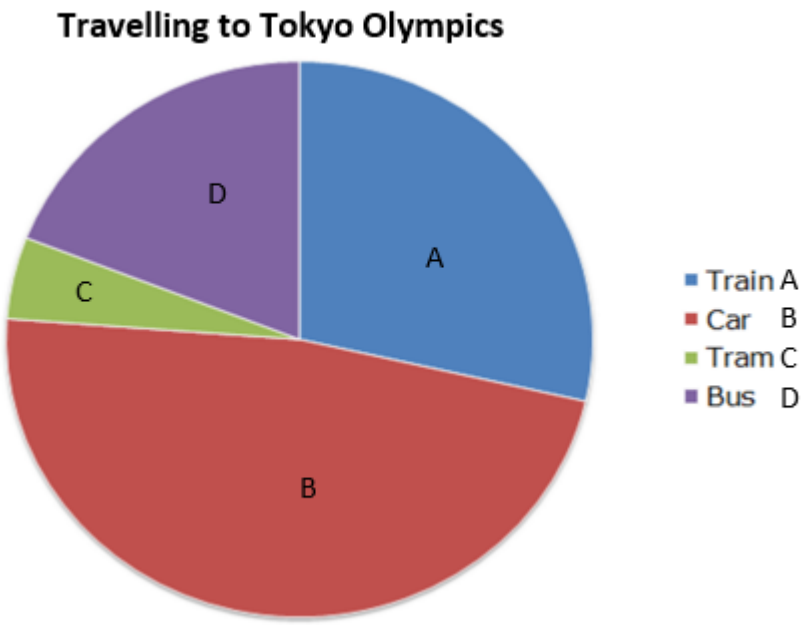
c) Which country achieved the least Bronze medals?

d) Name two countries that had the same number of gold medals

Marking	
2 marks	Correct responses for each part (1/2 mark each)

14) Interpreting a Sector Graph (3 marks)

The pie graph below represents the forms of transport spectators may use to attend events in the 2020 Tokyo Olympics. Use the graph to answer the following questions.



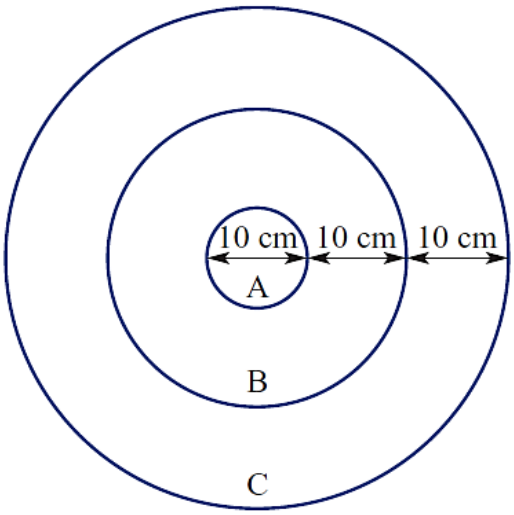
a) List the forms of transport represented in the pie graph in order from **most** to **least** popular.

b) Which would affect more people, an increase in the price of car parking or an increase in the price of train tickets?
Explain why.

Marking	
1 mark	Correctly answer for part a)
1 mark	Correct answer for part b)
1 mark	Correct reason for part b)

15) Target Probability (4 marks)

A target board is made up of three rings (A, B and C) that are 10 cm apart. An experienced shooter is guaranteed to hit the target in one of the rings, with an equal chance of doing so at any point.



a) Showing all working, calculate the area of the region labelled 'C'.

b) It is said that you are 16 times more likely to hit the region labelled 'C' than you are the region labelled 'A'. Use calculations to prove this.

Marking	
2 marks	Part a) answered correctly with all working
2 marks	Calculations shown in part b) to prove region 'C' is 16 times that of region 'A'

16) How many Australian competitors? (4 marks)

Pictured below is a table outlining the total number of competitors at each Olympic Games since 1980.

Year	Competitors
1980	9 951
1984	9 984
1988	10 203
1992	10 127
1996	10 351
2000	10 465
2004	10 987
2008	11 068
2012	11 140
2016	11 238

a) Construct a column graph displaying the above. Make sure to include all labels and features.

b) Using a ruler, draw a trend line and use this line to predict how many competitors you would expect to compete at this year's Olympic Games.

Marking	
2 marks	Correctly constructed graph with all features and labels.
2 marks	Trend line and prediction are accurate according to the graph drawn.

17) Design an Olympic Village (3 marks)

Your challenge is to design an Olympic Park or Village. You have a budget of $750 000. Design and draw your park/village on separate paper. You must not go over your spending limit but you MUST have toilets, a train station, paths, cafes and shops. Show working out and a total of how much you spent on your design.

ITEM	COST
Stadium	$50 000
Accommodation Block	$50 000
Restaurant	$10 000
Shop	$7 000
Toilets	$1 000
Paths	$10 000
Lake	$5000
Doctor/Physio/Pharmacy	$10 000 each
Power Station	$20 000
Train Station	$20 000
Any other building	$10 000

Marking	
1 mark	Budget does not exceed $750000. Shown by an addition algorithm.
1 mark	Diagram is neat, drawn with ruler where possible.
1 mark	Diagram includes all mandatory buildings (toilets, train station, paths, cafes and shops).

18) Cost and Profit (6 marks)

Olympic tickets can be very expensive to purchase and they sell out quickly. Based on your Olympic Village design in Task 17, how much would you charge per ticket? If they are too cheap, you will not make enough to cover your costs of building. If they are too expensive, people will not come to the Olympics and you still won't make enough to cover your costs.

a) How much are you charging per ticket? Justify with working out and reasoning. Make sure you include working out from your budget in Task 17.

b) Using the table, calculate how much money you would earn on the entrance gate in the first 10 days. Show all working out.

Day	Number of Visitors	Income
1	3 853	
2	7 445	
3	8 431	
4	964	
5	6 019	
6	775	
7	9 629	
8	10 211	
9	12 765	
10	15 876	
	TOTAL INCOME =	

c) Based on your budget from Task 17, will you have made enough money in the first 10 days to cover your cost of building? Justify with working out and reasoning.

Marking	
2 mark	Part a) ticket price and reasoning provided
2 marks	Part b) table complete with working out. Deduct 1 mark if no working out shown.
2 marks	Part c) working out to show whether income was enough or not, plus reason.

Bodily/Kinaesthetic (Questions 19 to 24)

19) How do you compare? (1 mark)

The following table shows the record holders in 3 track events:

Event	Women's Competitor	Record	YOUR DISTANCE
100m	Rachel Runner	10.73 sec	
200m	Sarah Sprinter	21.30 sec	
400m	Jessica Jogger	54.20 sec	

Have a friend or family member time the distance you can run in each of the times above. Record the distance you ran in the empty column to compare the distance covered in the same timeframe.

Marking	
1 mark	All distances are recorded in the table.

20) Can you do it too? (2 marks)

In the 2016 Olympic Games in Rio de Janeiro, American Ryan Crouser set an Olympic Games record in shot put by throwing it 22.52 metres.

Your turn:

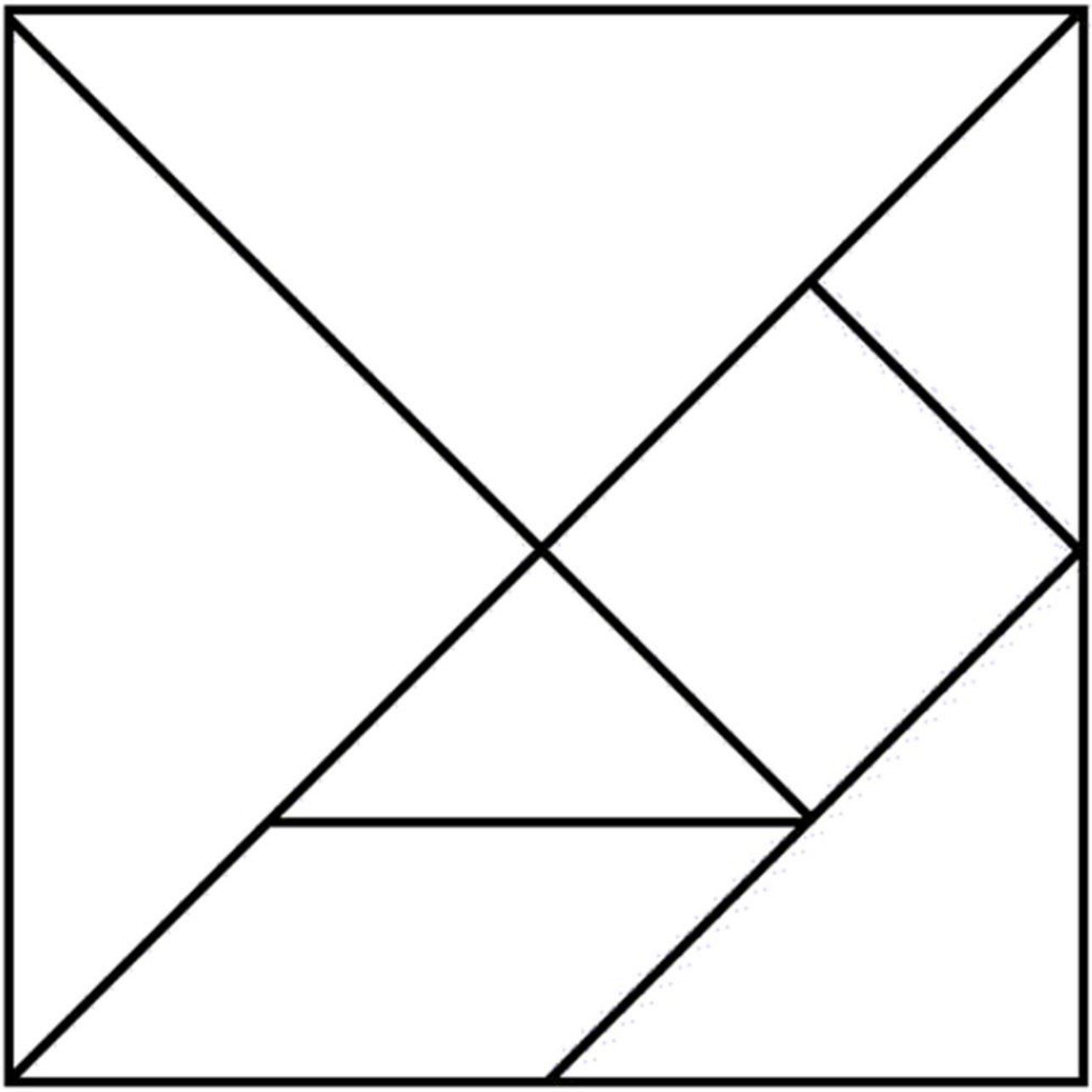
1. Using a tennis ball as you would throw a shot put (after properly warming up), take five attempts and record the distance of each throw.
    a. What was the average distance of your throws?
    b. Which throw was the longest?
    c. Which throw was the shortest?
    d. Why do you think this might be?

Marking	
1/2 mark	Per completed question.

21) Design your own (2 marks)

You are responsible for designing the mascot for the Tokyo Olympic Games 2020. Cut out and use all seven of the attached tangram shapes on the next page to complete your mascot. Write a brief paragraph explaining your mascot's relevance to the Olympic Games and Tokyo. Glue your completed tangram onto a separate sheet of paper or take a picture of your finished product.

Marking	
1 mark	Designed mascot demonstrated (glued onto separate sheet of paper or photo of finished product)
1 mark	Paragraph relating the mascot to the Olympic Games and Tokyo



22) You vs Usain (4 marks)

Usain Bolt's time of 9.58 seconds in the 100-metre sprint has resulted in him being named as the "fastest man on earth."

a) Calculate Bolt's running speed in km/h

b) Complete an experiment to calculate your approximate running speed in km/h

c) What is your speed as a percentage of Bolt's?

All working must be shown to receive full marks, including the distance you ran and the time it took.

Marking	
1 mark	Bolt's running speed is calculated with all working shown.
2 marks	A suitable time and distance is listed with the correct working shown to calculate your own speed.
1 mark	Your speed is correctly expressed as a percentage of Bolt's.

23) You are in the Olympics Games! (4 marks)

You are at the Olympic Games representing Australia in your favourite sport. Imagine it is the day of your event.

Make a timeline of your schedule from the moment you arrive at the venue (i.e. eating, warm-up, the actual event, cool down, maybe media interview, etc.).

Create a timeline by hand or using technology, clearly demonstrating the specific activities and time taken for each activity on your timeline.

You must include photos of each stage in your timeline e.g. a picture of you eating before an event.

Hand in a hard copy of your timeline.

Marking	
1 mark	Basic timeline provided with no photos
2 marks	Basic timeline with some photos only briefly outlining the event
3 marks	Detailed timeline with most photos
4 marks	Detailed timeline with all photos

24) Measuring success (3 marks)

Using the Gold Medal tally from the 2016 Rio de Janeiro Olympics, decide whether Australia or the United States of America was more successful. Compare the amount of gold medals to the respective countries population.

Write a short paragraph justifying your answer. Show all appropriate working out.

Marking	
3 marks	Correct country chosen with all required working out and detailed justification.
2 marks	Correct country chosen with some working out and justification.
1 mark	Correct country chosen with no working out or justification.

25) Research (1 mark)

Research 'All Time Olympic Medals". Present in a table the top 10 countries in regards to total medal count, showing the country and the number of medals for each.

Marking	
1 mark	Accurate table showing both the countries and the medal count for each.

26) Time Zones (3 marks)

The Olympic Games are broadcast live all around the world. Imagine it is a Monday night and you are in Orange NSW, sitting down to watch a swimming event at 7pm AEST (Australian Eastern Standard Time). Research the time difference between Tokyo and the cities listed, and calculate what **day and time** it is at each location if they were to watch the same swimming event as you.

Use the URL to help you: https://www.timeanddate.com/worldclock/converter.html

Country	**Capital city**	**Time difference**	**Time event is broadcast**
Ghana	Accra		
South Africa	Johannesburg		
Samoa	Apia		
England	London		
Canada	Ottawa		
Pakistan	Islamabad		
Malaysia	Kuala Lumpur		
Jamaica	Kingston		

Marking	
1 mark	Table is incomplete and/or incorrect answers for over half the table.
2 marks	Table is complete but contains errors throughout
3 marks	Table is complete and accurate with no more than 2 errors.

27) Kahoot (3 marks)

Create a Kahoot with at least 10 Mathematics based questions using the Olympic Games as a theme. Take screenshots of each question and paste those screenshots on a separate sheet of paper.

Marking	
1 mark	Kahoot contains only 5 – 7 questions.
2 marks	Kahoot contains 10 questions but not mathematics based on related to the Olympics/
3 mark	The Kahoot has 10 questions that are all mathematics based and relating to the Olympic Games. All answers are correct.

28) Financial Maths – Online Soccer Game (4 marks)

Go to http://www.financialsoccer.com/ and complete the online soccer game. To successfully complete the game, you must answer a variety of financial mathematics-related questions. At each stage, you must take screenshots of your progress and final results, and paste those screenshots on a separate sheet of paper.

Marking	
1 mark	Screenshot showing a game was started, but no progress/results
2 marks	Screenshots showing some progress/results
3 marks	Screenshots showing progress and mostly correct results
4 marks	Screenshots clearly showing progress and a success rate of 85% or better

29) Design an Advertisement (3 marks)

Design a leaflet/brochure that is advertising the Tokyo 2020 Olympic Games. Use technology such as Microsoft Word, Publisher or another application of your choice. Include colours, ticket prices and images that will make your advertisement stand out.

Your design should be no larger than A4 size and needs to be printed and handed in on separate paper.

Marking	
1 mark	Very simple advertisement with little to no advertising features
2 marks	Good advertisement with some advertising features
3 marks	Well designed advertisement, with strong advertising features eg. colours, statistics, prices, images etc.

30) Record Breakers (3 marks)

In the modern era of Athletics, more and more records are continuously broken. So why is this? Some factors recognised are greater training principles, better running techniques and greater exposure of athletes. Other influences can be put down to technology.

You are to write a brief explanation of no less than 300 words of the various technological factors that influence an athlete's ability to break records. Make reference to improved equipment and track surfaces.

Marking	
1 mark	A simple explanation of technological advancements referencing only one aspect.
2 marks	A basic explanation referencing improved equipment and track surfaces.
3 marks	A thorough explanation of the effects of improved equipment and how track surfaces have helped lessen running times.

Overall marking comments