

SERIOUSLY ADDICTIVE
MATHEMATICS

S.A.M Port Coquitlam

Information Booklet



Port Coquitlam, BC

#203-2608 SHAUGHNESSY STREET
PORT COQUITLAM, BC, CANADA, V3C 3G6



Contents

03 Introduction

04 What is S.A.M?

05 S.A.M - Thinking Math

06 Why S.A.M?

07 S.A.E - English

08 Class Flow

09 Online Flow

10 Sample Tasks

17 F.A.Q

18 Contact



Introduction

Welcome to Seriously Addictive Mathematics Port Coquitlam. We are so happy you value your child's education and have made the decision to learn more about us.

At SAM, we train children to develop an attitude of self-discovery and learning at a young age. Our trainers ask leading questions rather than spoon-feed children. A habit of self-learning and discovery transcends beyond the subject of Mathematics – it will greatly benefit their learning of other subjects as well.

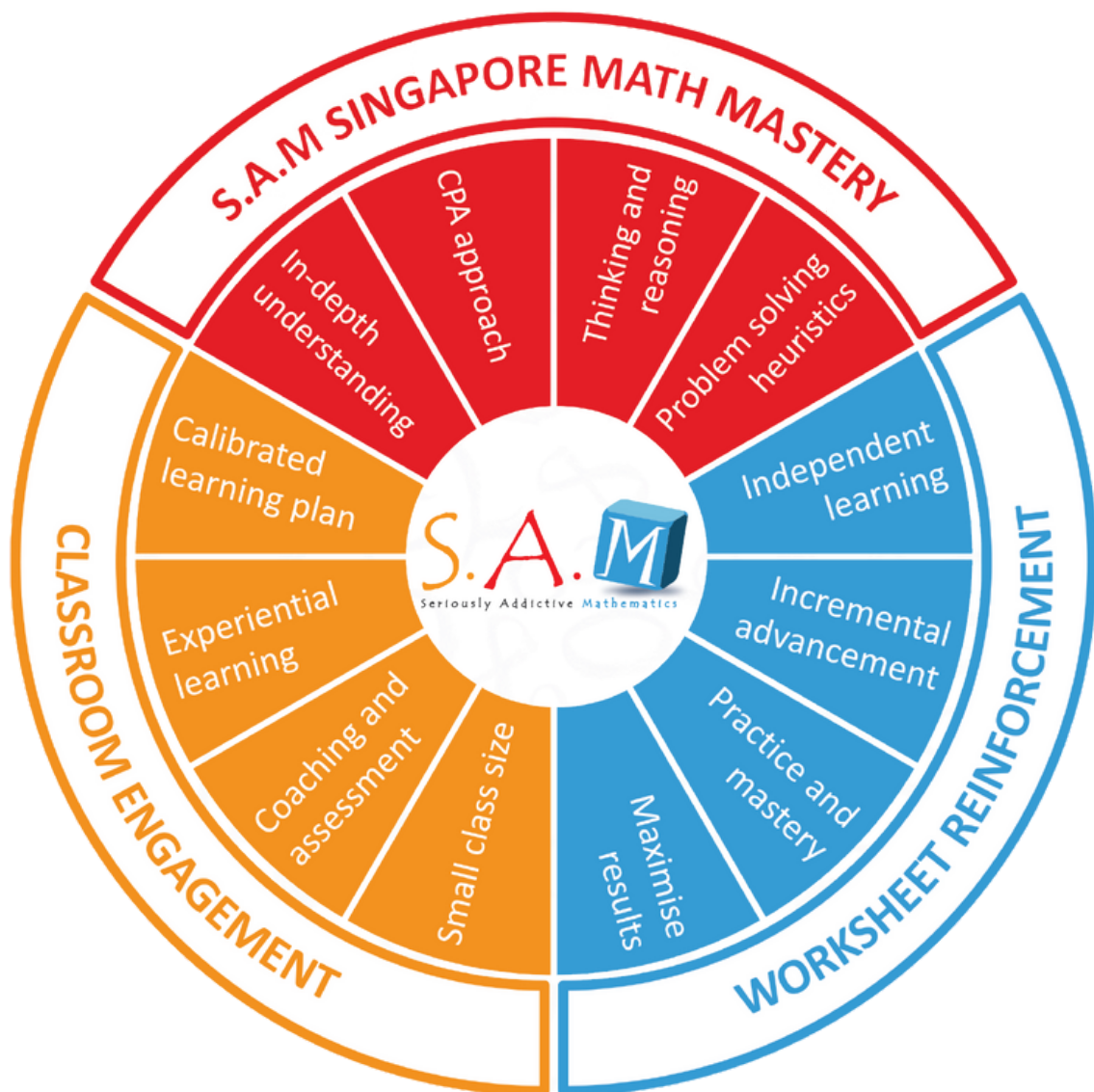


What is S.A.M?

S.A.M, or Seriously Addictive Mathematics, is a Mathematics Learning Program from Singapore, with a unique Mathematics curriculum designed for students from 4 to 12 years of age. Based on Singapore Math, SAM's Award Winning Curriculum and Pedagogy is the most relevant and most comprehensive Math enrichment program available today. With over 30,000 pages of carefully crafted thinking worksheets, and combined with motivating and creative classroom experiences, the SAM Approach makes learning fun and interesting. Students learn at their own pace through an individual based Step-Up process that is thoughtfully prescribed by a qualified SAM Trainer.

Singapore Math is reputed to be one of the most successful national programs in the world, according to the TIMSS (Trends in International Math & Science Study) survey, since 1995. The Singapore Math curriculum and pedagogy is unique and revolutionary in its approach towards the subject. It is very effective as a stand alone curriculum or a supplement to an existing school math program.

S.A.M Thinking Math Program





Why S.A.M?

These days, a student requires more than just Rote learning to excel in Math. At S.A.M, we focus on skills such as Critical Thinking, Heuristics, Logical Reasoning, Metacognitive Understanding, Modelling Techniques and Situational Word Problems, amongst others. Collectively, we term this as A Holistic Approach to learning Mathematics.

Throughout our program, from the way Trainers engage students in the Classroom, to the way questions are phrased and how solutions are presented in our Worksheets, we adopt this Holistic Approach. By the end of our program, S.A.M students will be well equipped with an array of skills to confidently embrace future challenges in the world of numbers.

The Classroom Experience, conducted by Certified S.A.M Trainers, engages students with dialogue, probing questions, props, games and a healthy dose of encouragement. The idea is to make learning fun and memorable through an array of interactive experiences. We provide a coaching pedagogy in the Classroom Experience, where your child is encouraged to discover their solutions rather than to be told what to do. We also use Concrete examples through props and games to reinforce mathematical concepts.

S.A.E - English

Seriously Addictive English (S.A.E) is based on UK's leading after-school English program. It uses a structured phonics approach and an integrated literacy skills curriculum to help children read fluently and write confidently.

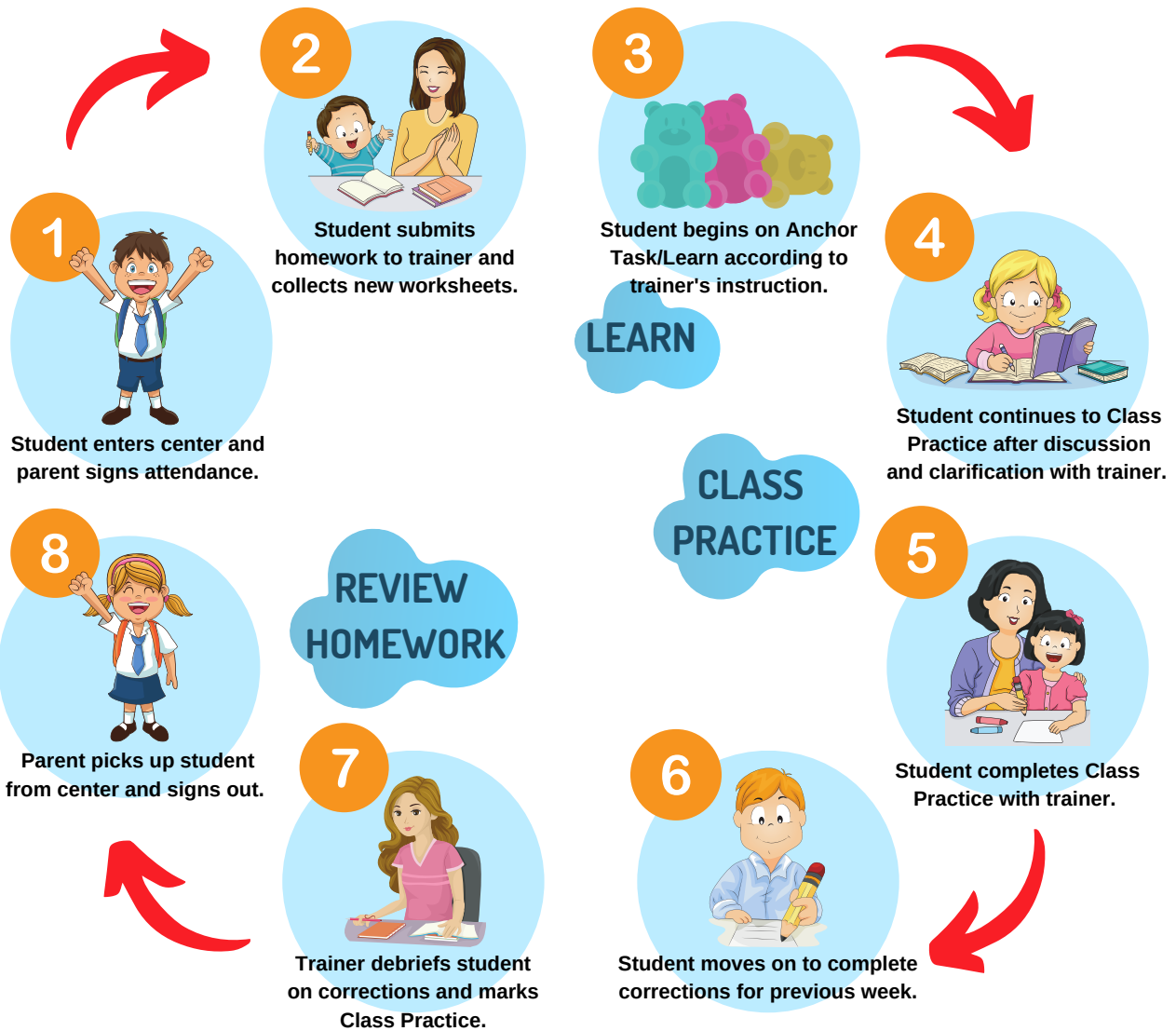
S.A.E worksheets are carefully structured to systematically develop reading and writing skills through a variety of activities and text types. Key areas are learned in gradual steps to ensure understanding and revised at increasing complexity.

Through guided practice in class and independent practice at home, children develop strong literacy skills, self-discipline and good study habits.

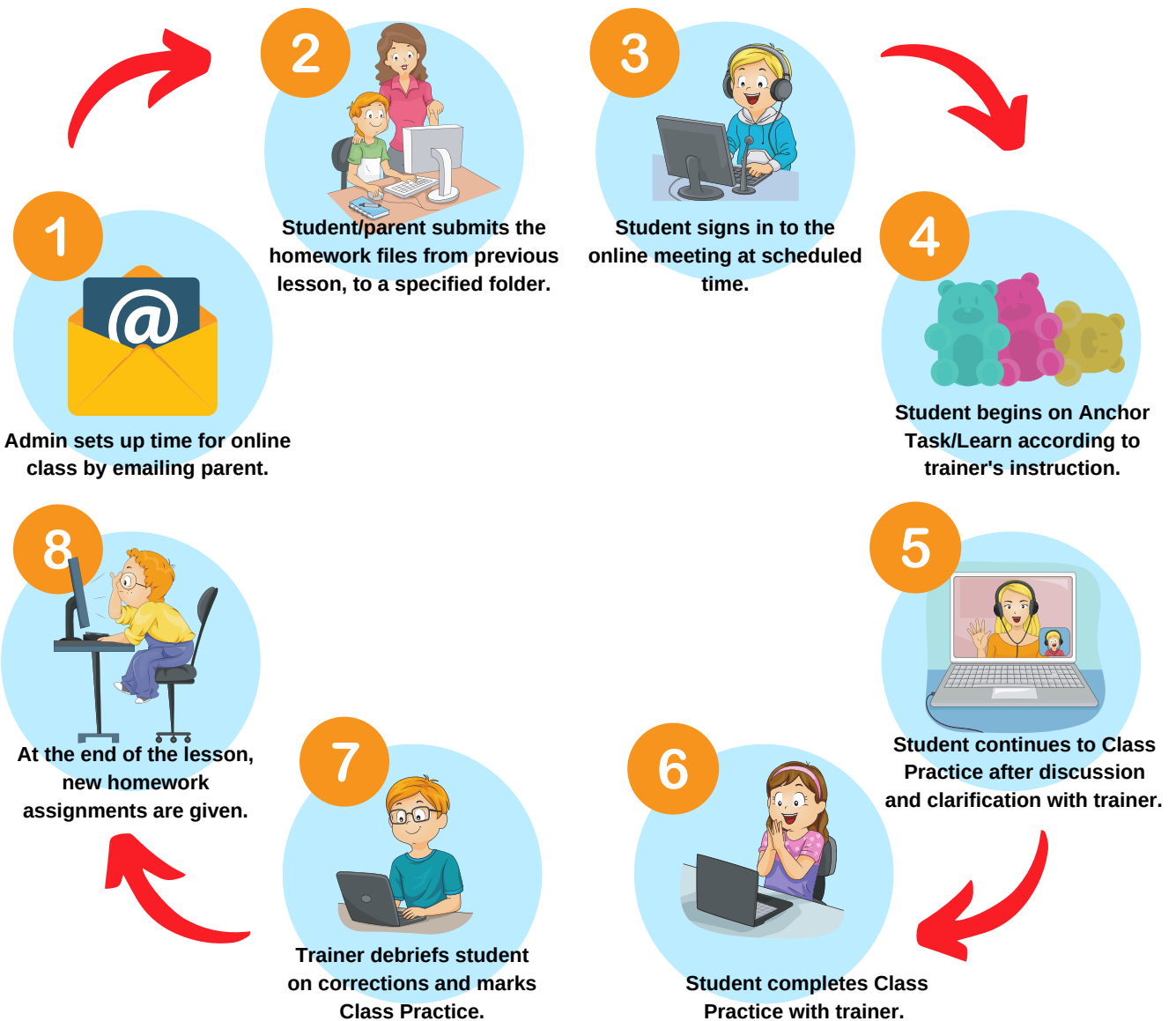
Curriculum:

- Fine motor skills
- Handwriting
- Phonics
- Reading
- Comprehension
- Spelling
- Vocabulary
- Grammar
- Punctuation
- Structuring text
- Planning text
- Independent writing

Class Flow In Person



Class Flow Online



Sample Tasks

Level 0

4. Join the number words seven to one to get the hamster to the carrot.

nine hamster eight ten
 six seven ten nine
 five two one eight
 four three carrot ten

2. Join the numbers from 10 to 1 in order. Colour the shape you end at.

a)

start 10 3
 9 4 2
 8 5 1
 7 6 banana

1. Complete the equations. Write the correct numbers.

a)

4 bears 2 bears

$$4 + 2 = \underline{6}$$

6 bears 2 bears

$$6 - 2 = \underline{4}$$

1. Ali is playing a board game. He wants to reach number 18. What must he do? Colour the correct answer.

Skip count by 2s

Skip count by 5s

Ali's token

1	2	3	4	5	6	7
DANGER!						8
13		12	11	10	9	
14						
15	16	17	18			

Level 1

11. Which group of shapes is **not** sorted by the number of sides and corners?

A

B

C

D

Answer: D

Study the number pattern below.
Find the missing numbers.

1, 2, 3, 6, 7, (a), (b)

$\xrightarrow{\times 2}$ $\xrightarrow{+1}$ $\xrightarrow{\times 2}$ $\xrightarrow{+1}$ $\xrightarrow{\times 2}$ $\xrightarrow{+1}$

[Look for patterns]

(a) $7 \times 2 = 14$

(b) $14 + 1 = 15$

Answer: (a) 14

(b) 15

1. Tom has four different toys, as shown below:



He wants to give two toys to his brother.
How many different ways can Tom give the toys?

Answer:

- 1) toy car, toy camera
- 2) toy car, _____
- 3)

Continue the list.
We start the list by choosing toy car with another toy.
Find all the ways Tom can choose toy car with another toy.
Then, repeat with the other toys.

Tom can give the toys in _____ different ways.

Four boys go to bed at different times at night.
Who goes to bed first?

(1)

Brad

(2)

Rick

(3)

Tim

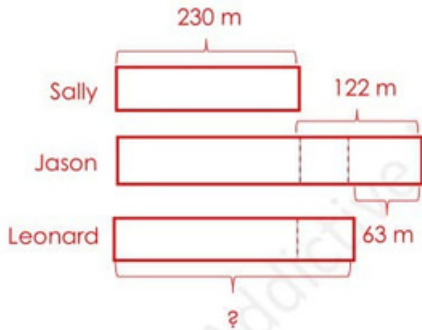
(4)

Joe

(2)

Level 2

3. Sally ran 230 metres.
Jason ran 122 metres more than Sally.
Leonard ran 63 metres less than Jason.
How far did Leonard run?



$$230 \text{ m} + 122 \text{ m} = 352 \text{ m}$$

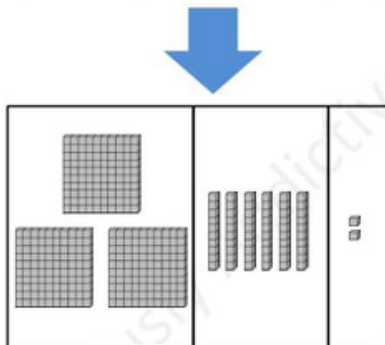
Jason ran 352 metres.

$$352 \text{ m} - 63 \text{ m} = 289 \text{ m}$$

Leonard ran 289 metres.

- b) Add $179 + 183$.

H	T	O
1	7	9
+	1	8
3	6	2



$$179 + 183 = \underline{362}$$

8. Complete the puzzle by filling in the missing numbers.

Use the numbers in the yellow boxes to find the answer. Fill in the blanks.

$$1. \quad \underline{9} \times 2. \quad \underline{3} = \underline{27}$$

108, 208, 206, 306, 304, 404, 402, ?

What is the next number in the pattern?

108, 208...
208 is 100 more than 108.
208, 206...
206 is 2 less than 208.

206, 306...
306 is 100 more than 206.
306, 304...
304 is 2 less than 306.

Do all the given numbers follow this pattern?

+100 -2 +100 -2 +100 -2 +100

108, 208, 206, 306, 304, 404, 402, **502**

The pattern is formed by **adding 100** and then **subtracting 2**.
The pattern rule is 'add 100 then subtract 2'.
Continue the pattern.
What number comes next?

Level 3

Jenny is thinking of a number. The digit in the ones place is 4 times the digit in the tens place. The digit in the ones place and the digit in the tens place add up to 10. The digit in the hundreds place is the same as the digit in the tens place. The digit in the thousands place is an odd number greater than 5 but smaller than 9. What number is Jenny thinking of?

Use guess and check to find the digits in the ones and tens places.

Digit in tens place	Digit in ones place	Total	Check
1	$4 \times 1 = 4$	$1 + 4 = 5$	✗
2	$4 \times 2 = 8$	$2 + 8 = 10$	✓

The digit in the hundreds place is 2. The value is 200.

The digit in the thousands place is 7. The value is 7000.

$$8 + 20 + 200 + 7000 = 7228$$

Jenny is thinking of the number 7228.

Jason uses craft sticks to form some figures. The figures follow a pattern.



Figure 1



Figure 2



Figure 3

a) Complete the table below. [Look for patterns]

Figure	1	2	3	4	5
Number of craft sticks	3	5	7	9	11

$$+ 2 \quad + 2 \quad + 2 \quad + 2$$

b) How many craft sticks are needed to form Figure 7?

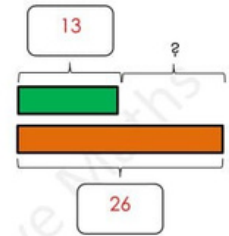
$$11 + 2 = 13$$

13 craft sticks are needed to form Figure 6.

$$13 + 2 = 15$$

15 craft sticks are needed to form Figure 7.

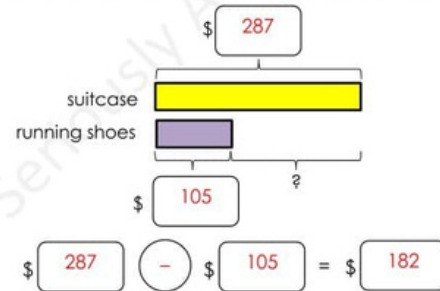
1. Find the difference between 13 and 26.



$$26 - 13 = 13$$

The difference between 13 and 26 is 13.

2. Thomas spent \$287 on a suitcase and \$105 on shoes. What is the difference in the price of the two items?



The difference in the price is \$ 182.

7. There are 11 birds and dogs in a pet shop. There are 38 animal legs altogether. How many birds and how many dogs are there? [Guess and check]

Start your guess with about the same number of birds and dogs. If the total number of legs is less than the actual number, increase the number of dogs. If the total number of legs is more than the actual number, decrease the number of dogs.



Number of birds	Number of bird legs	Number of dogs	Number of dog legs	Total number of legs	Check
5	$5 \times 2 = 10$	6	$6 \times 4 = 24$	$10 + 24 = 34$	✗
4	$4 \times 2 = 8$	7	$7 \times 4 = 28$	$8 + 28 = 36$	✗
3	$3 \times 2 = 6$	8	$8 \times 4 = 32$	$6 + 32 = 38$	✓

There are 3 birds and 8 dogs.

Level 4

8. The total number of marbles boxes A and B contain is 4343. The total number of marbles boxes B and C contain is 4268. The total number of marbles boxes A and C contain is 4861. How many marbles do the three boxes contain altogether?

$$\text{Box A} + \text{Box B} \rightarrow 4343$$

$$\text{Box B} + \text{Box C} \rightarrow 4268$$

$$4343 - 4268 = 75$$

Box A contains 75 more marbles than Box C.



$$2 \text{ units} = 4861 - 75$$

$$= 4786$$

$$1 \text{ unit} = 4786 \div 2$$

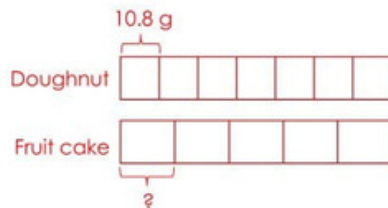
$$= 2393$$

Box C contains 2393 marbles.

$$4343 + 2393 = 6736$$

The three boxes contain 6736 marbles altogether.

15. 5 fruit cakes have the same amount of sugar as 7 doughnuts. If a doughnut has 10.8 grams of sugar, how much sugar is there in a fruit cake?



$$7 \times 10.8 = 75.6$$

5 fruit cakes contain 75.6 grams of sugar.

$$75.6 \div 5 = 15.12$$

A fruit cake contains 15.12 grams of sugar.

$$\begin{array}{r} 10.8 \\ \times 7 \\ \hline 75.6 \end{array}$$

$$\begin{array}{r} 15.12 \\ 5 \overline{) 75.60} \\ \underline{5} \\ 25 \\ \underline{25} \\ 06 \\ \underline{5} \\ 10 \\ \underline{10} \\ 0 \end{array}$$

Ella uses grey and white square blocks to form some figures. The figures form the pattern below.



Figure 1

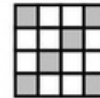


Figure 2

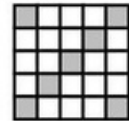


Figure 3

What fraction of the square blocks in Figure 92 are grey? [Look for patterns]

Figure 1 has 5 grey squares.

Figure 2 has 1 more grey square than Figure 1.

Figure 3 has 2 more grey squares than Figure 1.

Figure 92 will have 91 more grey squares than Figure 1.

$$5 + 91 = 96$$

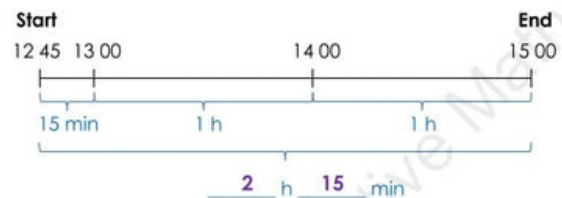
Figure 92 has 96 grey squares.

Figure 1 has $(3 \times 3 =)$ 9 grey and white squares altogether.
 Figure 2 has $(4 \times 4 =)$ 16 grey and white squares altogether.
 Figure 3 has $(5 \times 5 =)$ 25 grey and white squares altogether.
 Figure 92 will have $(94 \times 94 =)$ 8836 grey and white squares altogether.

$$\frac{96}{8836} = \frac{24}{2209}$$

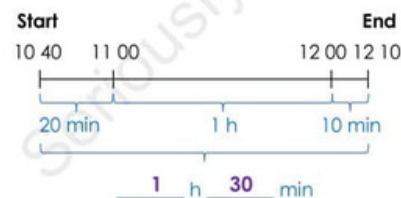
$\frac{24}{2209}$ of the square blocks in Figure 92 are grey.

Kyle watched a movie at 12 45. The movie ended at 15 00. What was the duration of the movie?



The movie was 2 hours 15 minutes long.

Layla entered a swimming pool at 10 40. She left the swimming pool at 12 10. How much time did Layla spend at the swimming pool?



Layla spent 1 hour 30 minutes at the swimming pool.

Level 5

1. Darla is thinking of a 3-digit whole number. Each digit is different. She uses the digits in the same order to make a decimal with one decimal place. The sum of the whole number and decimal is 379.5. What is the whole number Darla is thinking of?

[Simplify the problem]

If the whole number is ABC, the decimal is AB.C.

$$\begin{array}{r} \\ + \\ \hline 3 \end{array}$$

The digit C is 5.

$$9 - 5 = 4$$

The digit B is 4.

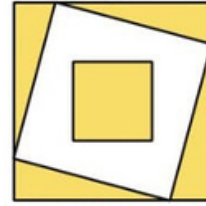
$$7 - 4 = 3$$

The digit A is 3.

Check: $345 + 34.5 = 379.5$ (✓)

Darla is thinking of the number 345.

3. The figure below is made up of 3 overlapping squares.



The ratio of the area of the smallest square to the area of the figure is 4 : 25. The ratio of the smallest square to the total shaded area is 2 : 5. Find the percentage of the figure that is not shaded. [Simplify the problem]

$$\frac{4}{25} \times 100\% = 16\%$$

16% of the figure is made up of the smallest square.

$$2 \text{ units} = 16\%$$

$$5 \text{ units} = 16\% \div 2 \times 5 = 40\%$$

40% of the figure is shaded.

$$100\% - 40\% = 60\%$$

60% of the figure is not shaded.



17. Grocer Amy sold $28\frac{2}{5}$ kilograms of rice on Monday. She sold $2\frac{3}{4}$ kilograms less rice on Tuesday than on Monday. How many kilograms of rice did she sell over the two days in total? Express your answer as a decimal.

$$28\frac{2}{5} - 2\frac{3}{4} = 25\frac{13}{20}$$

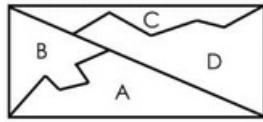
Grocer Amy sold $25\frac{13}{20}$ kilograms of rice on Tuesday.

$$28\frac{2}{5} + 25\frac{13}{20} = 54.05$$

She sold 54.05 kilograms of rice over the two days in total.

Level 6

2. The diagram below shows a rectangle divided into 4 parts A, B, C and D.



The ratio of the area of Part A to the area of Part B is 5 : 3 and ratio of the area of Part B to the area of Part C is 2 : 1.

- a) Find the ratio of the area of Part A to the area of Part B to the area of Part C to the area of Part D.
b) If the area of Part D is 39 cm², find the area of the rectangle.

$$\begin{array}{ccc} \text{A} & : & \text{B} & : & \text{C} \\ 5 & : & 3 & : & 1 \\ \times 2 & \rightarrow & \times 2 & \rightarrow & \times 3 \\ 10 & : & 6 & : & 3 \end{array}$$

$$10 + 6 = 16$$

The total area of parts A and B is 16 units.

The total area of parts A and B is equal to the total area of parts C and D.

$$16 - 3 = 13$$

The area of Part D is 13 units.

The ratio of the area of Part A to the area of Part B to the area of Part C to the area of Part D is 10 : 6 : 3 : 13.

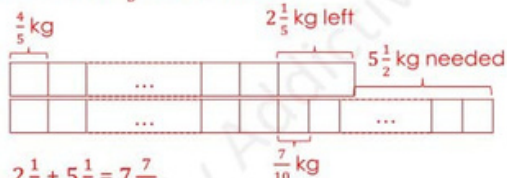
$$\begin{array}{l} \text{b)} \quad \quad \quad 13 \text{ units} = 39 \\ (10 + 6 + 3 + 13) \text{ units} = 39 + 13 \times 3 \\ \quad \quad \quad \quad \quad \quad = 96 \end{array}$$

The area of the rectangle is 96 cm².

9. There were some rice in a grocery shop. If all the rice was packed into bags of $\frac{4}{5}$ kilogram, there would be $2\frac{1}{5}$ kilograms of rice left. If all the rice was packed into bags of $1\frac{1}{2}$ kilograms, another $5\frac{1}{2}$ kilograms of rice were needed. How many kilograms of rice were there in the shop?

$$1\frac{1}{2} - \frac{4}{5} = \frac{7}{10}$$

Each $1\frac{1}{2}$ -kilogram bag contained $\frac{7}{10}$ kilogram more rice than each $\frac{4}{5}$ -kilogram bag.



$$2\frac{1}{5} + 5\frac{1}{2} = 7\frac{7}{10}$$

If each bag contained $1\frac{1}{2}$ kilograms of rice instead of $\frac{4}{5}$ kilogram, the bags would contain $7\frac{7}{10}$ kilograms more rice in total.

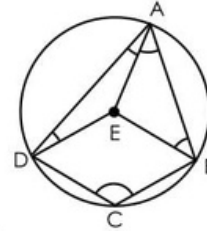
$$7\frac{7}{10} \div \frac{7}{10} = 11$$

She had 11 bags.

$$11 \times \frac{4}{5} + 2\frac{1}{5} = 11$$

There were 11 kilograms of rice in the shop.

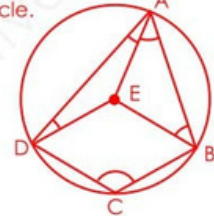
5. The figure below shows a circle with centre E. BCDE is a rhombus.



- a) Find $\angle DCB$.
b) Find the sum of $\angle ADE$, $\angle DAE$, $\angle EAB$ and $\angle ABE$.

- a) Line EC is also the radius of the circle.

DE = EB = BC = CD = EC
Triangles DEC and EBC are equilateral triangles.
 $\angle DCE = \angle ECB = 60^\circ$
 $\angle DCB = 60^\circ + 60^\circ = 120^\circ$



- b) $\angle EDC = \angle ECB = 60^\circ$ (Each angle of an equilateral triangle is 60° .)

ABCD is a quadrilateral. A quadrilateral can be divided into 2 triangles. The sum of the angles in a triangle is 180° .

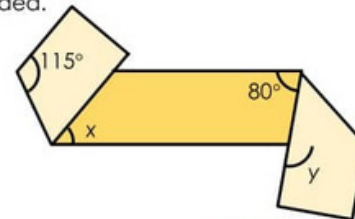
$$2 \times 180^\circ = 360^\circ$$

The sum of the angles in Quadrilateral ABCD is 360° .

$$360^\circ - 60^\circ - 120^\circ - 60^\circ = 120^\circ$$

The sum of $\angle ADE$, $\angle DAE$, $\angle EAB$ and $\angle ABE$ is 120° .

4. The diagram below shows a rectangular strip of paper being folded.



Find

- a) $\angle x$,
b) $\angle y$,
c) the ratio of $\angle x$ to $\angle y$. [Act it out]



- a) $\angle a = 180^\circ - 115^\circ$ (The sum of the angles between two parallel lines is 180° .)
 $= 65^\circ$
 $\angle b = 180^\circ - 115^\circ$ (The sum of the angles between two parallel lines is 180° .)
 $= 65^\circ$
 $\angle x = 180^\circ - 65^\circ - 65^\circ$ (The sum of the angles on a straight line is 180° .)
 $= 50^\circ$
- b) $\angle c = 180^\circ - 80^\circ$ (The sum of the angles between two parallel lines is 180° .)
 $= 100^\circ$
 $\angle y = \angle c$ (Vertically opposite angles are equal.)
 $= 100^\circ$
- c) $50 : 100 = 1 : 2$
The ratio of $\angle x$ to $\angle y$ is 1 : 2.



F.A.Q

What is different about the S.A.M Approach compared to other programs?

The S.A.M Approach to Mathematics combines the benefits of personalized training with the discipline of self learning and self discovery. At every step of the way, be it during class or when your child is doing homework, The S.A.M Approach is designed to introduce new concepts in incremental steps to make learning easier. During class, our qualified S.A.M Trainer introduces and explains the concepts and the lesson objective. Corrections from previous homework are also discussed and explained. Your child then reinforces and applies this knowledge on his own at home through our daily worksheets. Think of The S.A.M Approach as a combination of Worksheets based self learning, and Classroom based guidance and coaching.

Is the S.A.M curriculum relevant to students in Canada?

Of course! The S.A.M Approach to Mathematics is based on the Singapore Mathematics curriculum, which ranks highest in terms of standards. Mathematics as you know, is a universal subject. The fundamentals remain constant whichever country math is taught. However, apart from fundamental mathematical knowledge, The S.A.M Approach also cultivates life long skills in terms of critical, meta-cognitive and heuristic thinking, problem solving, self learning and self discipline, amongst others.

How does the S.A.M approach to mathematics benefit my child?

The S.A.M Approach instils discipline, responsibility and independent learning within your child. These are life skills, and the same habits are likely to benefit your child in other school subjects as well. The once a week guidance provided by our trainers gently steers your child in the right learning direction and provides encouragement and motivation, as they journey into the world of Mathematics. Most of all, whatever your child learns at S.A.M, you can be assured of its relevance to your child's school math curriculum and even to his future years as an aspiring adult.

Contact



Phone:

236-518-6284(MATH)



Email:

portcoquitlam@seriouslyaddictivemaths.ca



Website:

portcoquitlam.seriouslyaddictivemaths.ca



Facebook:

www.facebook.com/SAMPortCoquitlam



Instagram:

[sam_port_coquitlam](https://www.instagram.com/sam_port_coquitlam)