KSSM Semakan SPM Form 4 Additional Math Matematik Tambahan Video Book Free Trial

by MathTalk, Afterclass

concept

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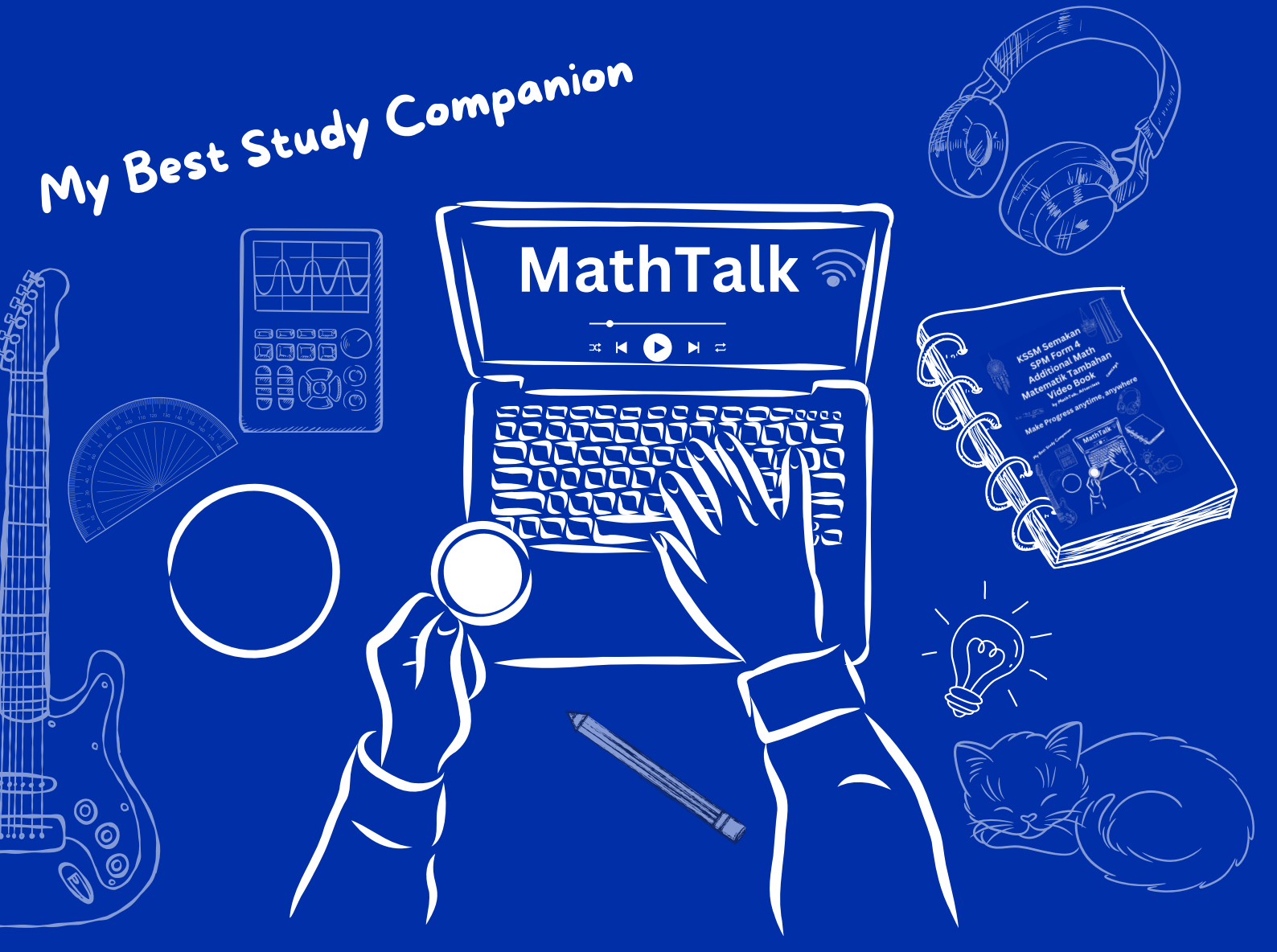
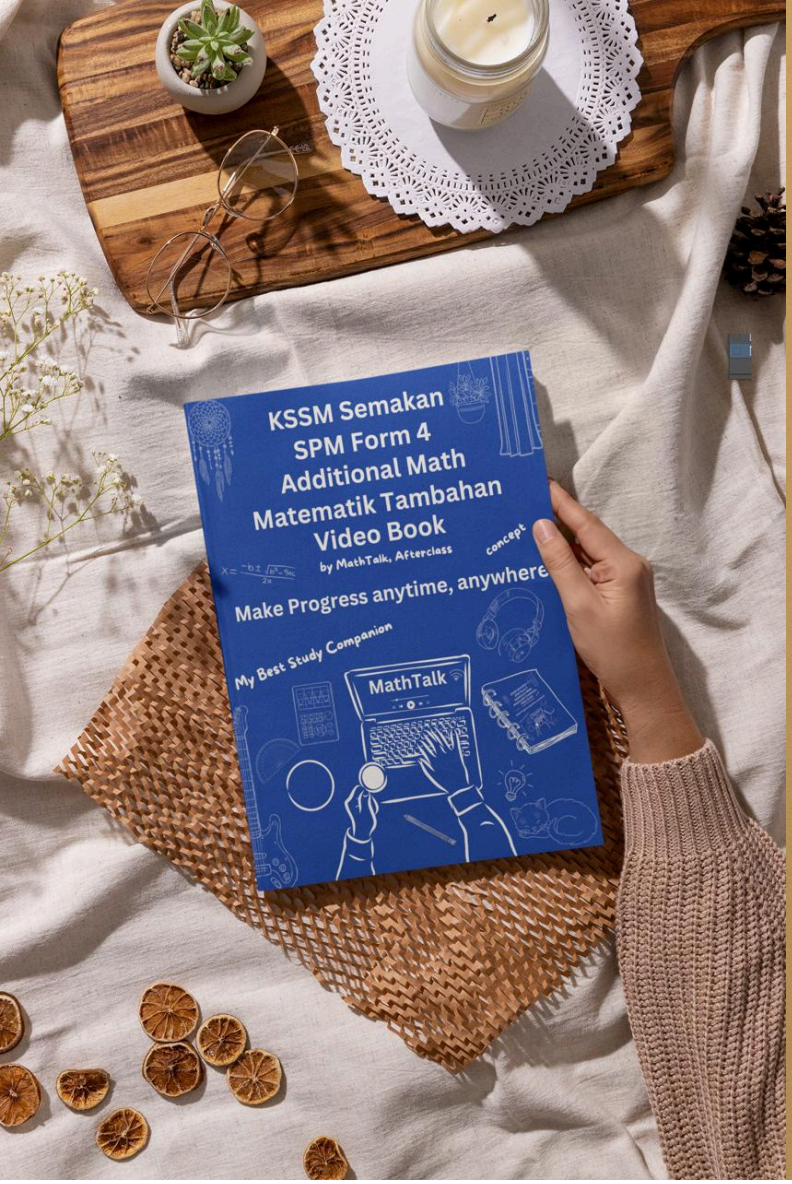
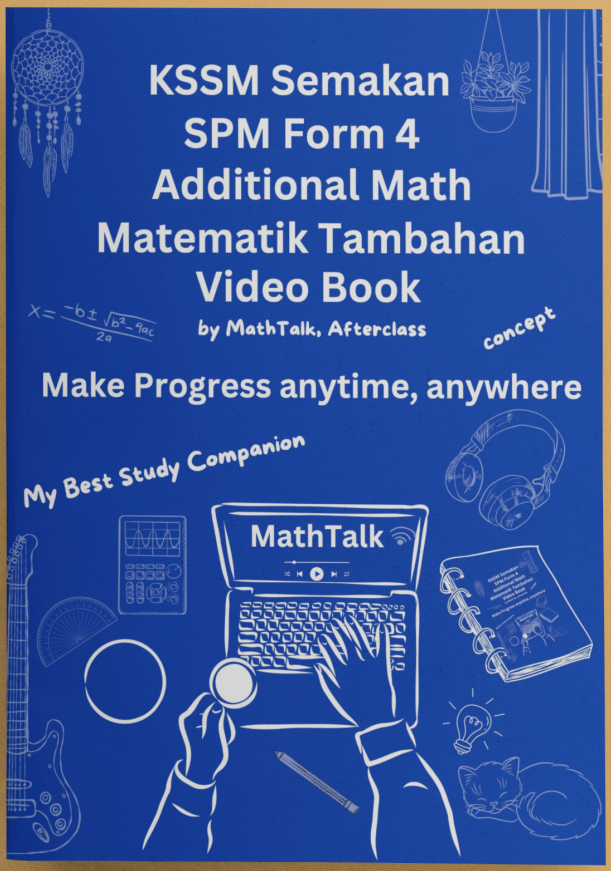






您接下来所看见的所有内容都附带讲解视频， 学生完完全全可以依据自己的进度学习。这不是活动本也不是作业。是AddMath最完整课程，等于一本有电影的课本。

每个单元概念的讲解，

每题习题的讲解分析，

及历届考题的分析。

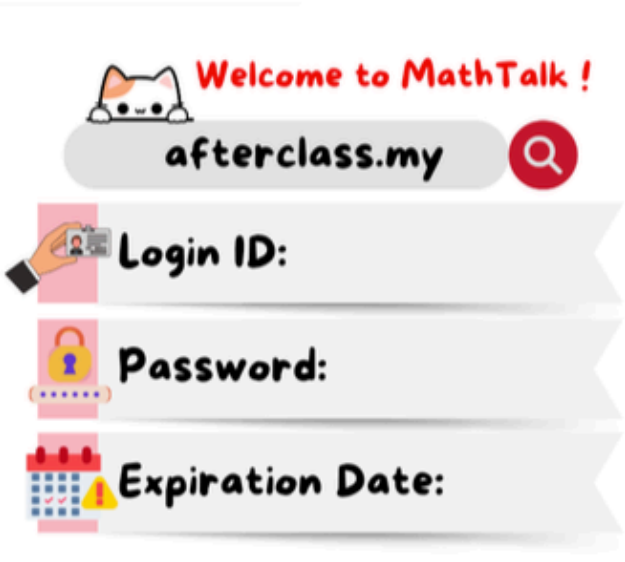
MathTalk 课程特点

KSSM Semakan Additional Mathematics Form 4 Full Course

by 冰姐讲数 MathTalk
Website: afterclass.my
Tel: 016 – 538 4655

Content *Kandungan* 目录

❗ 课程内容依据KSSR Semakan 最新课程编写。



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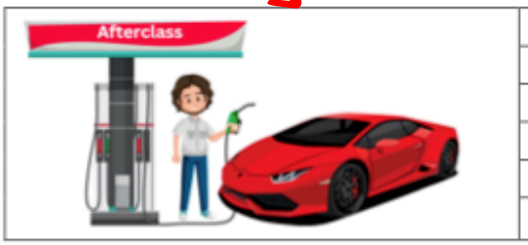
Concept 1

Function is a rule or relationship that assigns each input exactly one output. It can be thought of as a machine where you put in an input (often called x) and get out one output (often called y). *Fungsi adalah peraturan atau hubungan yang memberikan setiap input tepat satu output. Ia boleh dianggap sebagai mesin di mana anda masukkan satu input (selalunya dipanggil x) dan mendapatkan satu output (selalunya dipanggil y).*

Try me 1



Petrol RON 97, RM3.47 per litre	
1 litre	
2 litres	
3 litres	
4 litres	
5 litres	

❗每进入一个新的单元，都会先让学生明白概念。而不是直接讲Formula那种。

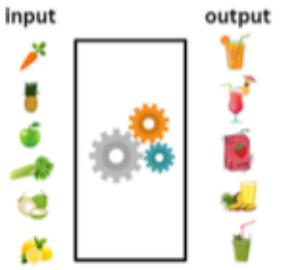
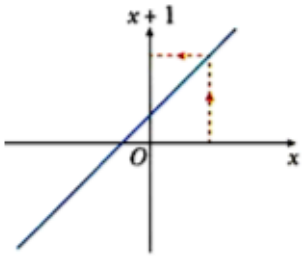
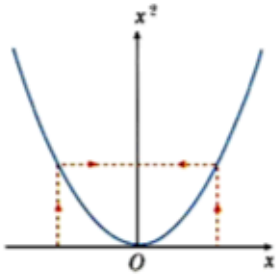
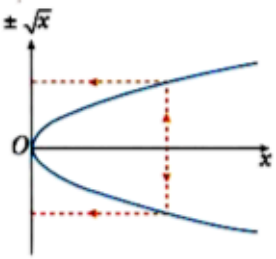
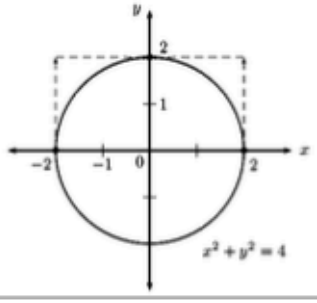
Updates: For the week of 2 November 2023 to 8 November 2023, fuel prices for RON95 and RON97 will remain unchanged at RM2.05 and RM3.47 per litre, respectively. *Kemaskini: Untuk minggu dari 2 November 2023 hingga 8 November 2023, harga bahan api untuk RON95 dan RON97 akan kekal tidak berubah pada RM2.05 dan RM3.47 setiap liter masing-masing.*

Note 1

❗分析整个单元即将学到的知识点。

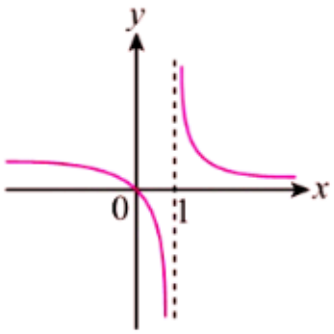
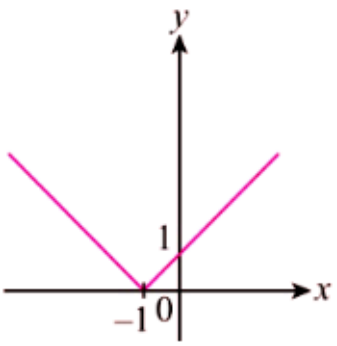
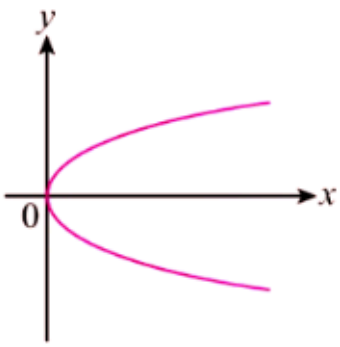
1	2	3
Function *Fungsi*	Composite Functions *Fungsi Gubahan*	Inverse Functions *Fungsi Songsang*

我们会以图像讲解让学生完全明白实际的内容。

Function *Fungsi*		Not a Function *Bukan fungsi*	
One – one *Satu - satu*	Many – one *Banyak – satu*	One – many *Satu - banyak*	Many – many *Banyak - banyak*
			
$x \mapsto x+1$	$x \mapsto x^2$	$x \mapsto \pm\sqrt{x}$	$x^2+y^2=4$
			
Vertical Line Test pass *Ujian garis mencancang lulus*		Fail Vertical Line Test fail *Ujian garis mencancang gagal*	

EXAMPLE

Example 3 Which of the following graph represents a function? *Antara graf berikut, yang manakah menunjukkan fungsi?* KSSM Semakan School Text Book

a	b	c
		
Ans: Yes	Ans: Yes	Ans: No

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Tutorial 4 Exam Hot Question

❗由浅到深一题一题讲解。

1. The function f is defined by $f: x \longrightarrow x - 1$.Another function g is such that $fg: x = \frac{4-x}{x-2}$, $x \neq 2$.
   Fungsi f adalah ditakrifkan $f: x \longrightarrow x - 1$. Satu fungsi yang lain g seperti $fg: x = \frac{4-x}{x-2}$, $x \neq 2$.

   a. Find the function g. *Dapatkan fungsi g.*

   b. State the value of x such that the function g is undefined.
   Nyatakan nilai x apabila fungsi g adalah tidak memastikan.

2. The function f is defined by $f: x = x + 2$.Another function g is such that $gf: x = x^2 - 3$. Find g.
   Fungsi f adalah ditakrifkan $f: x = x + 2$. Fungsi yang lain g adalah seperti $gf: x = x^2 - 3$. Dapatkan g.

3. Given that $f: x \longrightarrow 2x - 5$, find the value of $f^{-1}(3)$.
   Diberi fungsi $f: x \longrightarrow 2x - 5$, dapatkan nilai $f^{-1}(3)$.

4. Given the function $f: x \longrightarrow \frac{x}{x-2}$, $x \neq 2$, find f^{-1}.
   Diberi bahawa $f: x \longrightarrow \frac{x}{x-2}$, $x \neq 2$, dapatkan f^{-1}.

5. Given the function $f(x) \longrightarrow \frac{x+1}{x-1}$, $x \neq 1$ and $g(x) = 4x$, find, $fg^{-1}(x)$.
   Diberi fungsi $f(x) \longrightarrow \frac{x+1}{x-1}$, $x \neq 1$ dan $g(x) = 4x$, dapatkan, $fg^{-1}(x)$.

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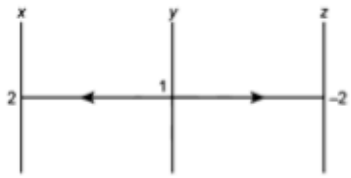
Challenge 1

1. Diagram shows the mapping of y onto x by the function $f(y) = 5y - 3$ and the mapping of y onto z by the function $g(y) = \frac{m}{4y-1}, y \neq \frac{1}{4}$.
Rajah menunjukkan pemetaan y kepada x di bawah fungsi $f(y) = 5y - 3$ *dan memetakan y kepada z di bawah fungsi* $g(y) = \frac{m}{4y-1}, y \neq \frac{1}{4}$.

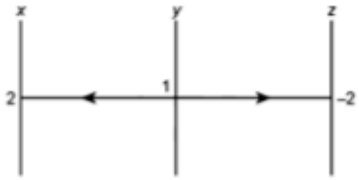


a. Find the value of m. *Cari nilai m.*

❗ 最难的KBAT 题目。

b. Find the function which maps x onto y. *Cari fungsi yang memetakan x kepada y.*

c. Find the function which maps x onto z. *Cari fungsi yang memetakan x kepada z.*



2. The function f is defined by $f: x \to \frac{8}{x}, x \neq 0$. Find the expression for each of the following functions.
Fungsi f ditakrifkan $f: x \to \frac{8}{x}, x \neq 0$. *Cari ungkapan bagi setiap fungsi berikut.*
   a. f^2
   b. f^3
   c. Hence, find the expression of f^{40} and f^{41}.
   Seterusnya, cari ungkapan bagi f^{40} *dan* f^{41}.

3. Functions f, g and h are defined by the following: *Fungsi-fungsi f, g, dan h didefinisikan seperti berikut:*

   $f: x \to x^2 + 3x$

   $g: x \to 5 - 2x$

   $h: x \to x^3 + 1$

   Evaluate the following: *Nilaikan setiap yang berikut:*

   a. fgh (-1)
   b. ghf (1)

Exercise 3

Given *Diberi*, $f(x) = 3x$, $g(x) = \frac{x}{2}$, $h(x) = 2x + 1$

Find *Cari*

1. $fg(x)$
2. $gh(x)$
3. $fh(x)$
4. $gf(x)$
5. $fh(x)$
6. $hg(x)$
7. $fgh(x)$
8. $gfh(x)$
9. $hgf(x)$

❗一次过分析学生即将遇到的所有题型，无论考试出什么题目，学生都可以应付。

为什么MathTalk课程更适合大家?

事半功倍

每个家长都知道，现在学生的活动特别多，回到家通常都十分疲倦，还需要上补习班的话，大家觉得孩子可以吸收多少呢？MathTalk 课程的优点在于孩子可以足够休息后，在精神最佳的状态依据自己的进度学习，效果肯定大大提升。

适合成绩不理想的同学

对于基础不好，还是学习能力比较慢，需要时间慢慢理解的同学，大家认为补习班的老师是否会为了一名学生而拖慢整个进度吗？前面单元没学到的课程又如何呢？MathTalk 的课程是一个题目一个视频，学生哪里不会， 就学哪里， 学到会为止。不用紧张， 不用压力。

更适合成绩优越的同学

数学成绩比较优越的你，会比较希望在补习班中浪费时间听已经懂的题目，还是希望可以把握时间，尽量学习更多不同的题型，如果是后者，就只有MathTalk适合你。

10%的费用，10倍的效果

MathTalk 课程就等于和冰姐进行一对一的私人家教。课程不是平常上课补习班的录的视频，是冰姐特别一题一个讲解，完整却仔细的讲解每道题目和概念。但学费却只需不到补习费的十分之一。

每天进步1%

每天只需花几分钟的时间，学习数学课程。养成每天进步1%的好习惯，半年后你肯定被自己的改变吓一跳。

免费培训班

所有购买 MathTalk课程的同学都可免费获得全年不定期的现场直播培训班，或者以半价的优惠价出席特训班。同学可以和冰姐互动，同时冰姐也可以帮忙解决学生的问题。

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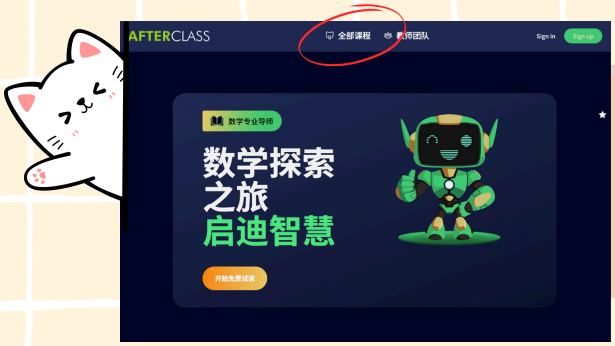

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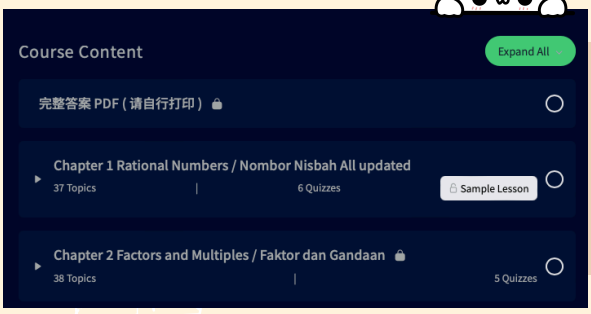
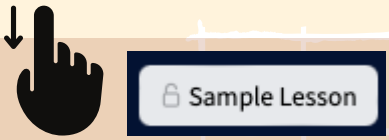
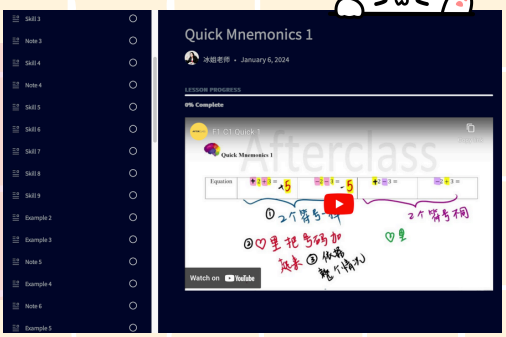


Scroll Down 至Sample Lesson



选择您想观看的视频



如何有效使用MathTalk 课程学习

步驟 1

每当开始学习新的单元，学生首选必须通过Concept 和 Note 对即将学习的概念有初步的了解。

步驟 2

通过观看视频先从 Example 开始学习基本的题目和作答方法。

步驟 3

明白基本概念后，在先不看视频的情况下自己尝试Exercise题目，此类题目是针对Example所教的方法进行训练。完成后，并下载 PDF 检查答案，答案错的话再观察视频讲解。

步驟 4

重复步骤3并完成每个 Exercise，Skill 和 Bonus 的讲解绝对不可以错过，因为这些都是非常有用的技巧。

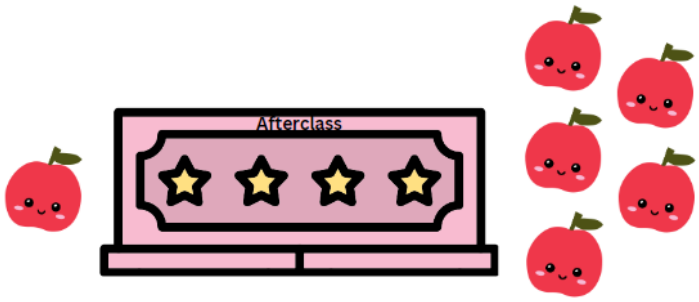
步驟 5

当你完成所有的 Exercise，基本上就已经是把整个单元学完了。

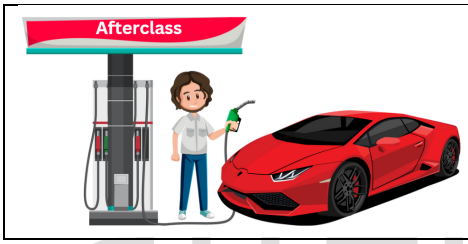
步驟 6

最后步骤，也是最重要的，就是 Tutorial 题目，Tutorial 多数为历届考题，考试的题型。先自行尝试，如果答案再观看视频。所有Tutorial 必须完成。

Concept 1



Try me 1



Petrol RON 97, RM3.47 per litre	
1 litre	
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Updates: For the week of 2 November 2023 to 8 November 2023, fuel prices for RON95 and RON97 will remain unchanged at RM2.05 and RM3.47 per litre, respectively. *Kemaskini: Untuk minggu dari 2 November 2023 hingga 8 November 2023, harga bahan api untuk RON95 dan RON97 akan kekal tidak berubah pada RM2.05 dan RM3.47 setiap liter masing-masing.*

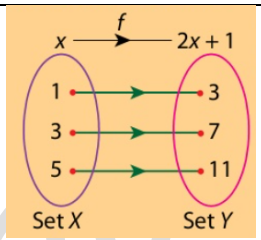
Note 1

1	2	3
Function *Fungsi*	Composite Functions *Fungsi Gubahan*	Inverse Functions *Fungsi Songsang*

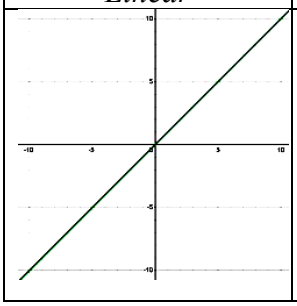
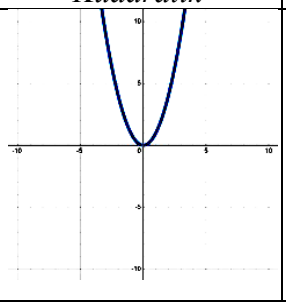
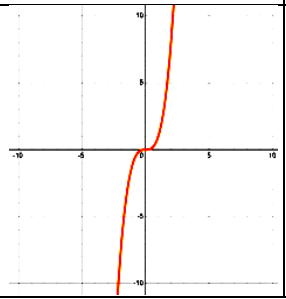
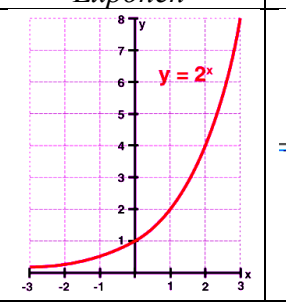
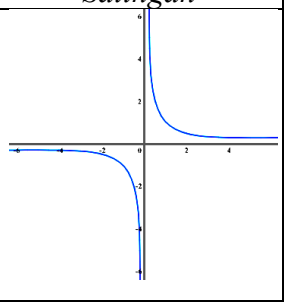
Skill 1 How to write *Cara menulis*

$g(x) = 2x + 1$	$g: x \to 2x + 1$
	

Skill 2 How to read *Cara membaca*

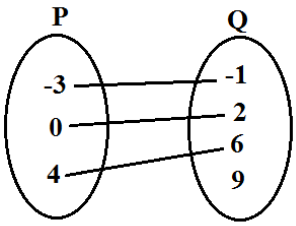
	$f: x \to 2x + 1$ is read as "function f maps x to $2x + 1$" $f: x \to 2x + 1$ *dibaca sebagai "fungsi f memetakan x kepada* $2x + 1$*"*	$f(x) = 2x + 1$ is read as "$2x + 1$ is the image of x under the function f " or "the function f of x is equal to $2x + 1$" $f(x) = 2x + 1$ *dibaca sebagai "* $2x + 1$ *ialah imej bagi x di bawah fungsi f" atau "fungsi f bagi x ialah sama dengan* $2x + 1$*"*	 Is read as "2x+1 for 1 is 3" and so on. *Dibaca sebagai "*$2x + 1$ *bagi 1 ialah 3" dan seterusnya.*

Skill 3 Different Type of graph function *Graf fungsi yang berbagai jenis*

Linear *Linear*	Quadratic *Kuadratik*	Cubic *Kubik*	Exponential *Exponen*	Reciprocal *Salingan*
				

Note 2 Relations *Hubungan* IMPORTANT

The arrow diagram shows a relation between set P and set Q. *Anak panah menunjukkan hubungan antara set P dan set Q.*



a. What is the domain? *Apakah domain?*

b. What is the codomain? *Apakah kodomain?*

c. What is the range? *Apakah julat?*

d. What is the image of -3? *Apakah imej bagi* -3*?*

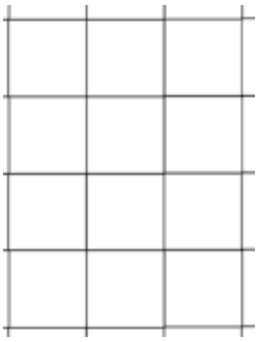
e. What is the object of 6? *Apakah objek bagi 6?*

f. State the above type of relation. *Nyatakan jenis hubungan atas.*

g. Represent the above relation using *Wakilkan hubungan atas dengan menggunakan*

i. ordered pairs *pasangan bertertib*

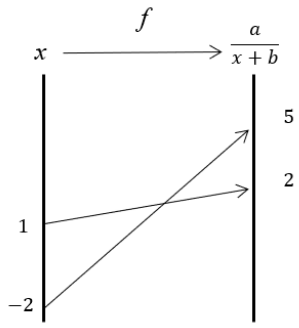
ii. a Cartesian graph *Graf Kartesian*



iii. a function notation *tatatanda fungsi* [Ans: f(x) = x + 2]

Note 3 Function *Fungsi*

The arrow diagram represents a function f(x) = $\frac{a}{x+b}$.
Gambar rajah anak panah mewakili fungsi f(x) = $\frac{a}{x+b}$.



Find *Cari*

a. the value of a and of b, *nilai a dan b.*

b. the value of x such that the function f is undefined.
nilai x dengan fungsi f adalah tidak ditentukan.

c. the image of 6, *imej bagi 6.*

d. the object that has the image -5, *objek yang mengandungi imej* -5.

e. the values of k such that f(k) = $2k$. *nilai k apabila f(k)* = $2k$.

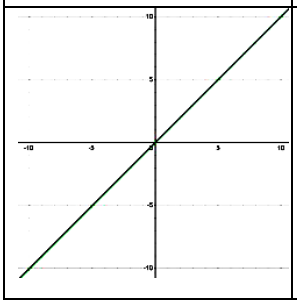
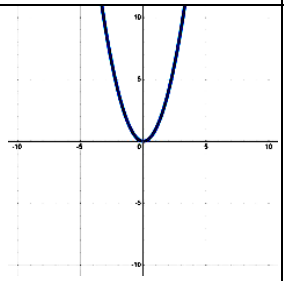
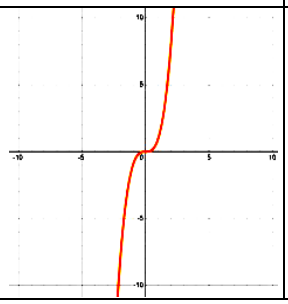
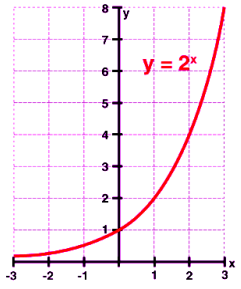
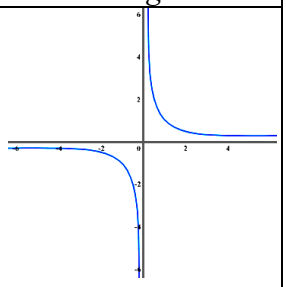
Note 4 Absolute Value Functions *Fungsi Nilai Mutlak*

Given the absolute value function f(x) = $|2x - 1|$, *Diberi fungsi nilai mutlak f(x)* = $|2x - 1|$,

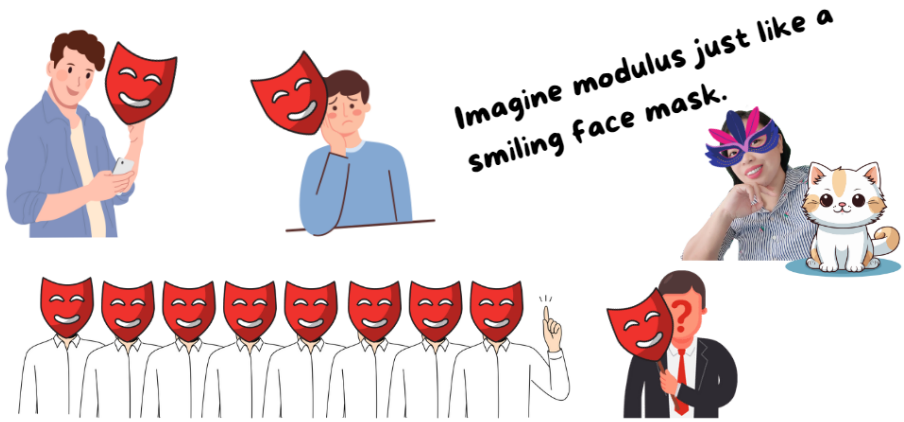
a. Sketch the graph of f(x) for the domain $-2 \leq x \leq 2$ and state the corresponding range of values of f(x),
Lakarkan graf f(x) bagi domain $-2 \leq x \leq 2$ *dan nyatakan nilai julat f(x) yang sepadan.*

b. Find the values of x that have the image 7. *Cari nilai x dengan imej 7.*

Skill 3 Different Type of graph function *Graf fungsi yang berbagai jenis*

Linear *Linear*	Quadratic *Kuadratik*	Cubic *Kubik*	Exponential *Exponen*	Reciprocal *Salingan*
				

Skill 4 Modulus



1. $|x| = 5, x =$

2. $|2x + 5| = 3\ , x =$

Example 1 Solve. *Selesaikan.* KSSM Semakan School Text Book

1. $|2x + 1| = 5$ [Ans: $x = 2$ or $x = -3$]

2. $|4x - 3| = x$. [Ans: $x = 1$ or $x = \frac{3}{5}$]

3. $|x^2 - 10| = 6$ [Ans: $x = -4, x = -2, x = 2, x = 4$]

4. $|x - 3| = 2x$ [Ans:$x = -3, x = 1$]

Exercise 1 Solve the following equation. *Selesaikan persamaan berikut.*

1. $|3x - 5| = x + 2$

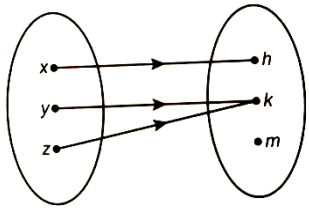
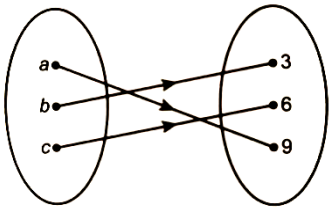
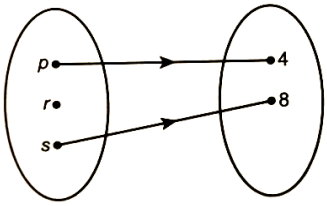
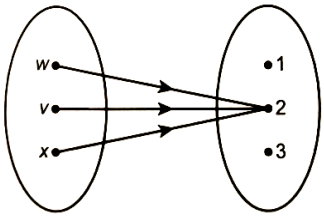
2. $x + |x - 5| = 8$

3. $|x^2 - 1| = 3$

4. $|x^2 + 1| = 10$

Note 5

Determine whether each of the following relations is a function.
Tentukan sama ada setiap hubungan yang berikut ialah suatu fungsi atau bukan.

1	2	3	4
			

EXAMPLE Example 2 Are the following relation a function? *Adakah hubungan yang berikut suatu fungsi?*

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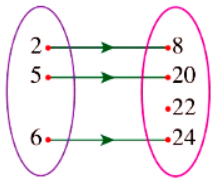
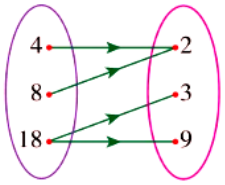
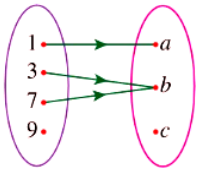
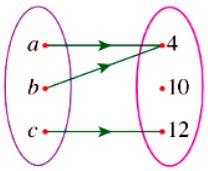
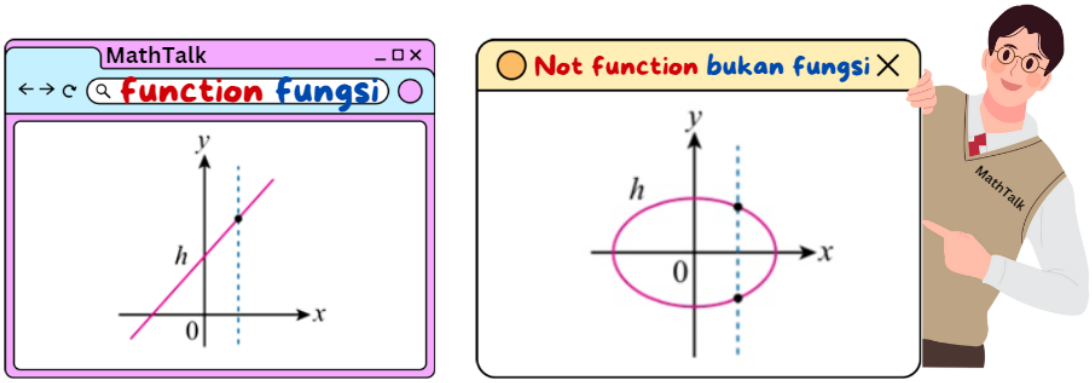
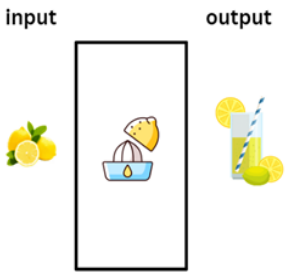
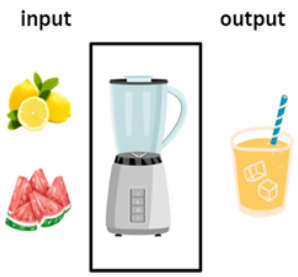
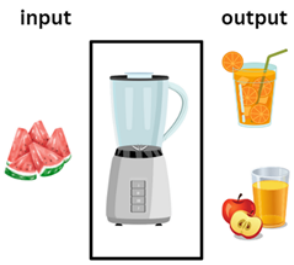
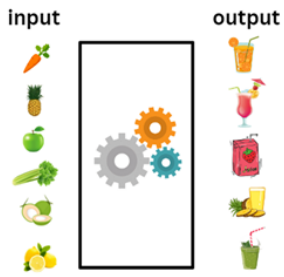
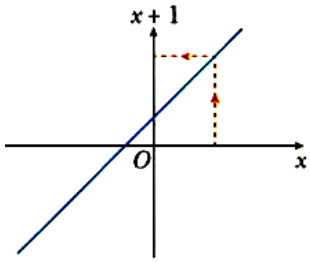
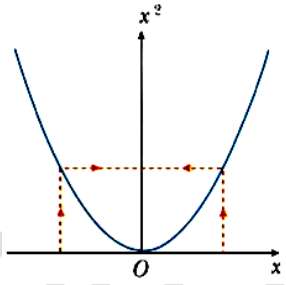
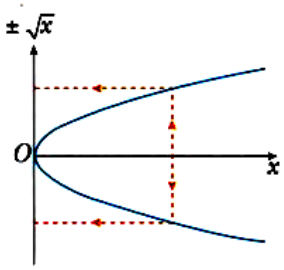
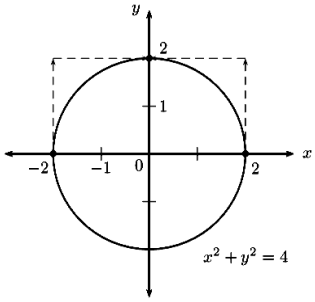
a	b	c	d
			
Ans: Yes	Ans: No	Ans: No	Ans: Yes

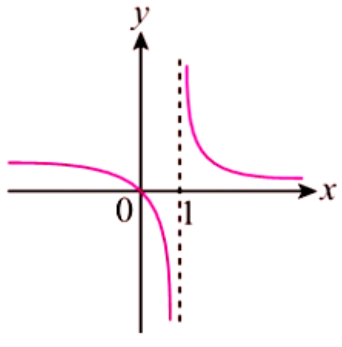
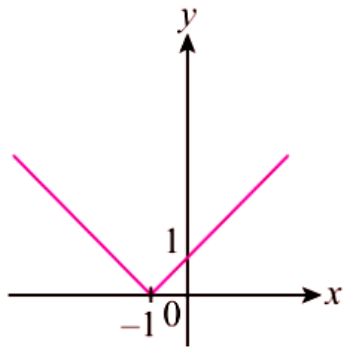
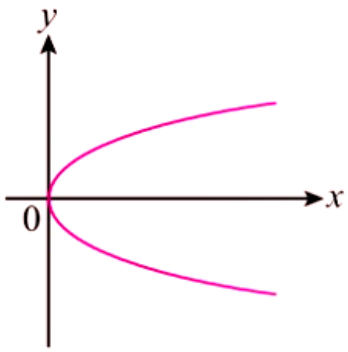
Skill 5 Vertical Test *Ujian Garis mencancang* Only in MathTalk



Function *Fungsi*		Not a Function *Bukan fungsi*	
One – one *Satu - satu*	Many – one *Banyak – satu*	One – many *Satu - banyak*	Many – many *Banyak - banyak*
			
$x \mapsto x + 1$	$x \mapsto x^2$	$x \mapsto \pm\sqrt{x}$	$x^2 + y^2 = 4$
			
Vertical Line Test pass *Ujian garis mencancang lulus*		Fail Vertical Line Test fail *Ujian garis mencancang gagal*	

EXAMPLE

Example 3 Which of the following graph represents a function? *Antara graf berikut, yang manakah menunjukkan fungsi?* KSSM Semakan School Text Book

a	b	c
		
Ans: Yes	Ans: Yes	Ans: No

Exercise 2 Determine whether each of these mappings is one-one, many-one or one-many. *Tentukan sama ada setiap pemetaan ini adalah satu-satu, banyak-satu, atau satu-banyak.* Challenge

1. $x \mapsto x + 1$, $x \in R$
2. $x \mapsto x^2 + 5, x \in R$
3. $x \mapsto x^3, x \in R$
4. $x \mapsto 2^x, x \in R$
5. $x \mapsto \frac{1}{x}, x \in R, x > 0$
6. $x \mapsto x^2 + 1, x \in R, x \geq 0$
7. $x \mapsto \frac{12}{x}, x \in R, x > 0$
8. $x \mapsto \pm x, x \in R, x \geq 0$

Note 6 Composite Function *Fungsi Gubahan* IMPORTANT A+ Exam Hot Question

The functions *f* and *g* are defined by
Fungsi f dan g ditakrifkan dengan

$f: x \to 2x + 4$

$g: x \to \frac{1}{7}x$

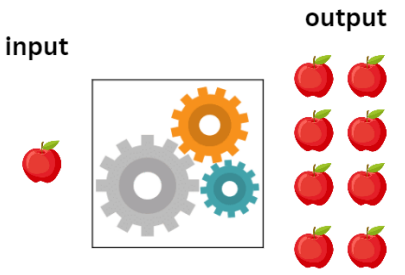
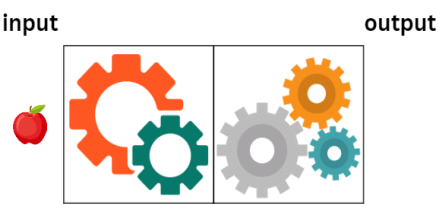
a. calculate *gf*, *kirakan gf*

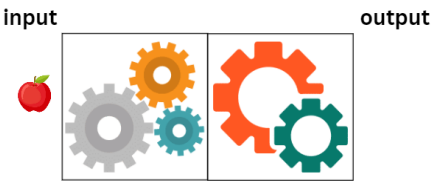
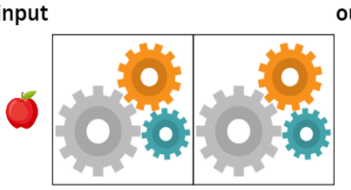
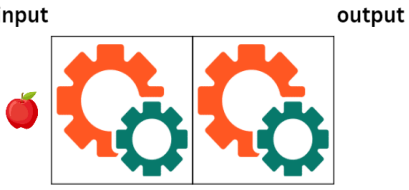
b. find *fg, cari fg*

c. find f^2 , *cari* f^2

d. For the function f, find the value of x that is mapped onto itself,
bagi fungsi f, cari nilai x dipetakan pada diri sendiri.

Skill 6

$f(x) = 2x + 6$	$g(x) = \frac{1}{2}x$	$fg(x) =$
		

$gf(x) =$	$ff(x) =$ or $f^2(x) =$	$gg(x) =$ or $g^2(x) =$
		

Bing Jie's message: Even $3 \times 4 = 4 \times 3$, but in function $fg \neq gf$. *Walaupun* $3 \times 4 = 4 \times 3$, *tetapi dalam fungsi,* $fg \neq gf$.

Note 7 IMPORTANT Easy Confused Exam Hot Question

Given the function $f: x \to x - 5$, find the function g if
Diberi fungsi $f: x \to x - 5$, *cari fungsi g jika*

a. $fg: x \to x^2 + 1$

b. $gf: x \to \frac{3}{x-2}, x \neq 2$

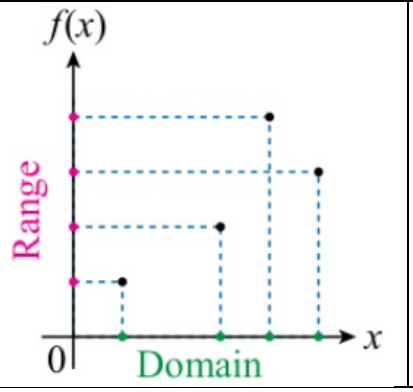
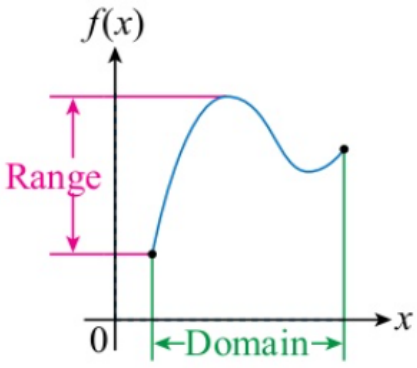
Skill 7 IMPORTANT Exam Hot Question

Function f is defined by $f: x \to \frac{1}{x^2}$, $x \neq 0$ *Fungsi f ditakrifkan oleh* $f: x \to \frac{1}{x^2}$, $x \neq 0$.

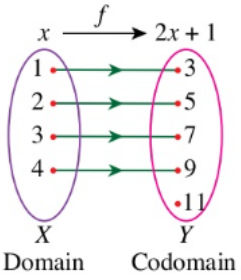
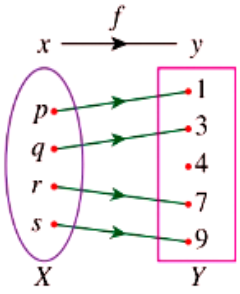
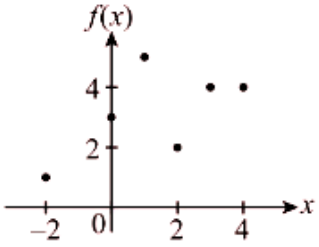
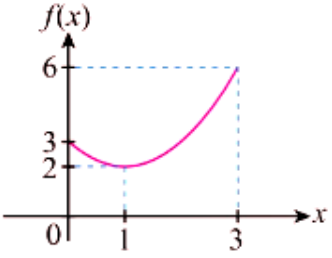
1. Express $f^2(x)$, $f^3(x)$ and $f^4(x)$ in the simplest form.
   Ungkapkan $f^2(x)$, $f^3(x)$ *dan* $f^4(x)$ *dalam bentuk yang paling ringkas.*

2. Hence *Seterusnya*, find *cari* $f^{22}(x)$ and $f^{33}(x)$.

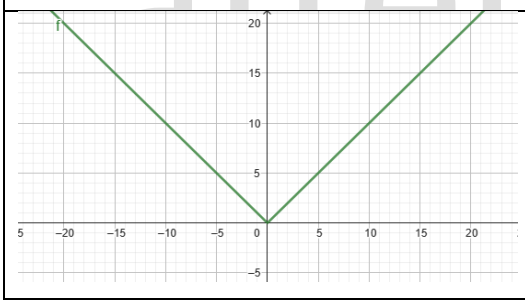
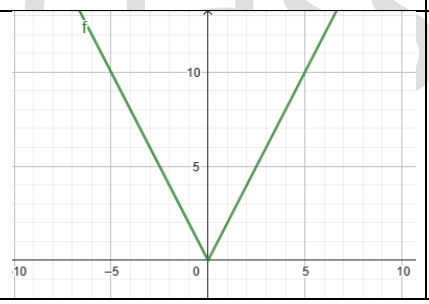
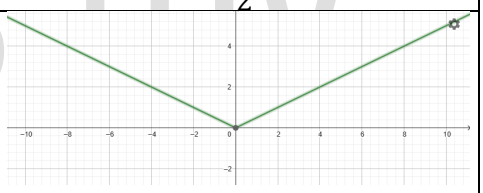
Skill 8, 5 Domain and Range *Domain dan Julat*

Discrete Function	Continuous Function
	

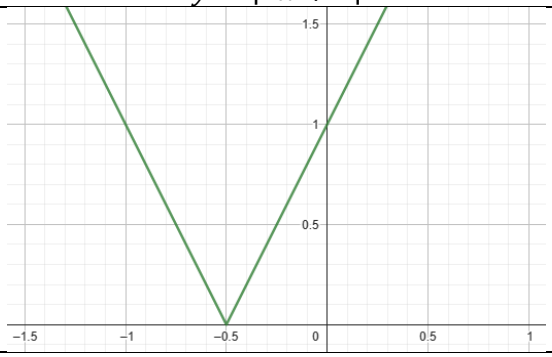
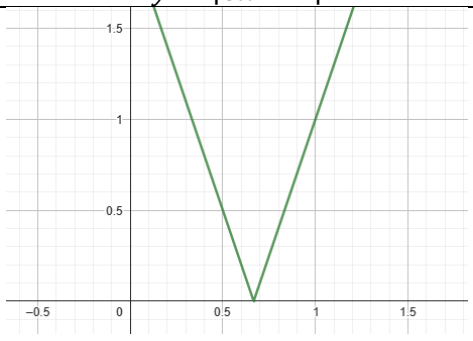
EXAMPLE Example 4 Domain and Range *Domain dan Julat* KSSM Semakan School Text Book

a	b	c	d
			
Domain: Codomain: Range:	Domain: Codomain: Range:	Domain: Codomain: Range:	Domain: Codomain: Range:

Skill 9

a	b	c
$y = \|x\|$	$y = 2\|x\|$	$y = \frac{1}{2}\|x\|$
		

Skill 10 Graph of modulus *Graf nilai mutlak*

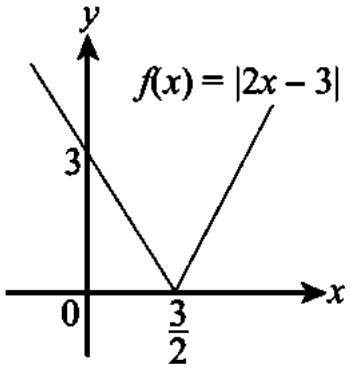
1	2
$y = \|2x + 1\|$	$y = \|3x - 2\|$
	

Example 5 KSSM Semakan School Text Book

The diagram on the right shows parts of the graph $f(x) = |2x - 3|$. Find

Rajah di sebelah menunjukkan sebahagian daripada graf $f(x) = |2x - 3|$,

cari



1. The values *Nilai* of $f(-2)$ and $f(4)$
2. The values of x such that $f(x) = 5$
3. The values of x which maps to itself.
4. The domain of $f(x) < 1$
5. The domain of $f(x) \geq 3$

Note 8 Inverse Function *Fungsi Songsang*

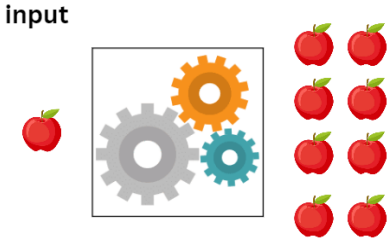
Given that function f$(x) = \frac{x-2}{x+1}$, $x \neq 1$ and $g(x) = 2x - 6$, find

Diberi fungsi $f(x) = \frac{x-2}{x+1}, x \neq 1$ *dan* $g(x) = 2x - 6$, *cari*

a. g^{-1} [Ans: $g^{-1} = \frac{x+6}{2}$]

b. f^{-1} [Ans: $f^{-1} = \frac{x+2}{1-x}, x \neq 1$]

Skill 11 Inverse Function *Fungsi Songsang*

$f(x) = 2x + 6$	$g(x) = \frac{1}{2}x$
input output 	input output 

$f^{-1}(x) =$	$g^{-1}(x) =$
input output 	input output 

Note 9

Given *Diberi*, $m(x) = x + 5, n(x) = 2x - 6$ Easy Confused Common Basic Needed

Find *Cari*

a. $m^{-1}n(x)$ [Ans: $m^{-1}n(x) = 2x - 11$]

b. $mn^{-1}(x)$ [Ans: $mn^{-1}(x) = \frac{x+16}{2}$]

c. $(mn)^{-1}(x)$ [Ans: $(mn)^{-1}(x) = \frac{x+1}{2}$]

d. $(nm)^{-1}(x)$ [Ans: $(nm)^{-1}(x) = \frac{x-4}{2}$]

e. $m^{-1}n^{-1}(x)$ [Ans: $m^{-1}n^{-1}(x) = \frac{x-4}{2}$]

f. $n^{-1}m^{-1}(x)$ [Ans: $n^{-1}m^{-1}(x) = \frac{x+1}{2}$]

Bing Jie's message Tip: $f^{-1}(x) \neq \frac{1}{f(x)}$

Note 10 A+ Exam Hot Question

Given that $f^{-1}(x) = \frac{1}{k-x}, x \neq k$, find the value of k if $f(x) = \frac{3x-1}{x}, x \neq 0$.

Diberi $f^{-1}(x) = \frac{1}{k-x}, x \neq k$, *cari nilai k jika if* $f(x) = \frac{3x-1}{x}, x \neq 0$. *if* $f(x) = \frac{3x-1}{x}, x \neq 0$ [Ans: $k = 3$]

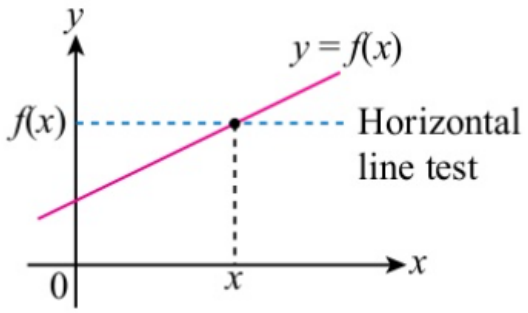
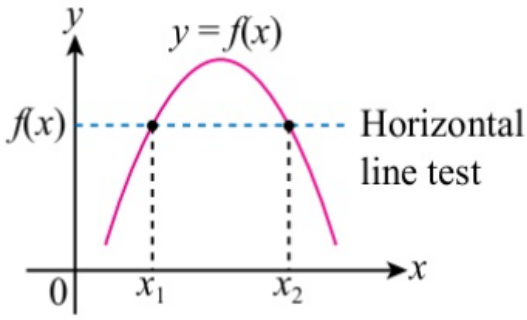
Skill 12 When x is not defined? *Bilakah x tidak ditakrif?*

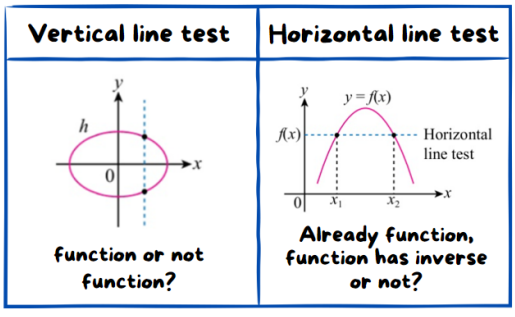
1	2	3	4	5
$f(x) = x$	$f(x) = 2x$	$f(x) = x - 3$	$f(x) = x + 5$	$f(x) = 3x + 1$
$x \neq$	$x \neq$	$x \neq$	$x \neq$	$x \neq$

6	7	8	9	10
$f(x) = \frac{1}{x}$	$f(x) = \frac{5}{2x}$	$f(x) = \frac{1}{x-3}$	$f(x) = \frac{2}{x+5}$	$f(x) = \frac{1}{3x+1}$
$x \neq$	$x \neq$	$x \neq$	$x \neq$	$x \neq$

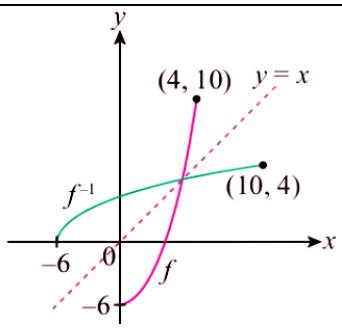
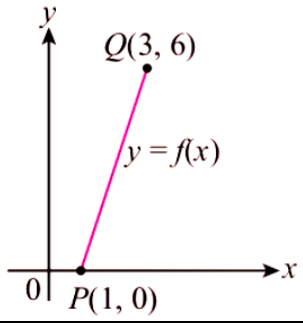
11	12	13	14	15
$f(x) = \frac{x+3}{5}$	$f(x) = \frac{x+2}{x-1}$	$f(x) = \frac{1}{-x-3}$	$f(x) = \frac{2}{-x+5}$	$f(x) = \frac{1}{-3x-1}$
$x \neq$	$x \neq$	$x \neq$	$x \neq$	$x \neq$

Skill 13 Horizontal Test *Ujian Garis mengufuk*

a	b
	
f has an inverses function *f mempunyai fungi songsang*	f does not have an inverse function *f tidak mempunyai fungsi songsang*



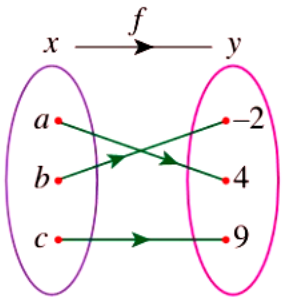
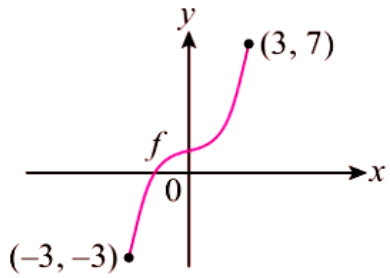
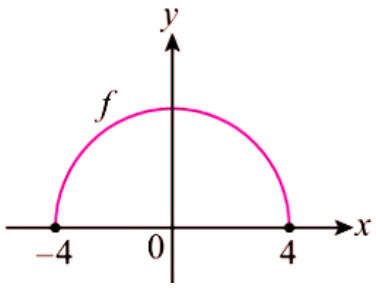
Skill 14 Reflection *Pantulan*

a	b
	

BingJie's message: Graph of inverse = graph of reflection *Graf songsang = graf pantulan*

EXAMPLE Example 6 KSSM Semakan School Text Book

Determine whether each of the following functions *f* has an inverse or not. *Tentukan sama ada setiap fungsi f berikut mempunyai fungsi songsang atau tidak. B*

a	b	c
		

BONUS Bonus 1

Find the inverse function f^{-1} for the function f that is given by f: $x \rightarrow \frac{x+2}{x-1}$, x ≠ 1. Hence, show that $ff^{-1}(x) = f^{-1}f(x)$. *Cari fungsi songsang* f^{-1} *bagi fungsi f yang diberi f:* $x \rightarrow \frac{x+2}{x-1}$ *, x ≠ 1. Seterusnya, tunjukkan bahawa* $ff^{-1}(x) = f^{-1}f(x)$. [*Ans:* $f^{-1}(x) = \frac{x+2}{x-1}$]

Exercise 3

Given *Diberi*, $f(x) = 3x$, $g(x) = \frac{x}{2}$, $h(x) = 2x + 1$

Find *Cari*

1. $fg(x)$

2. $gh(x)$

3. $fh(x)$

4. $gf(x)$

5. $fh(x)$

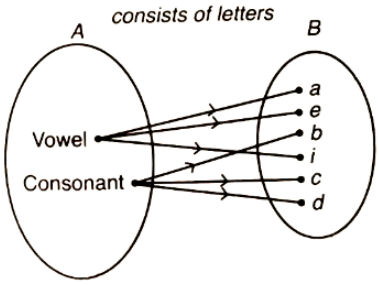
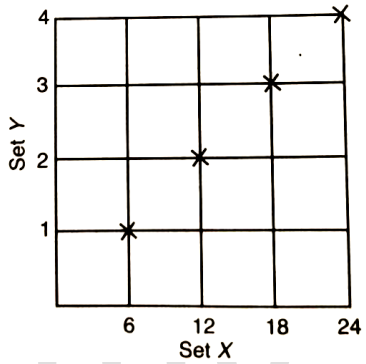
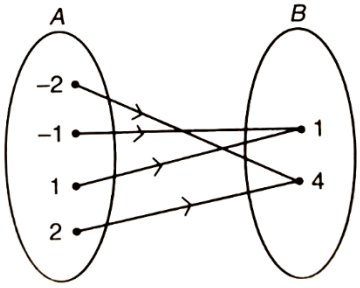
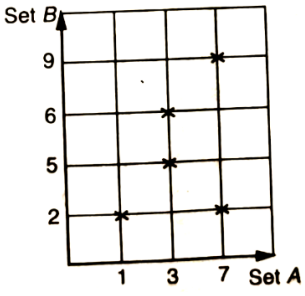
6. $hg(x)$

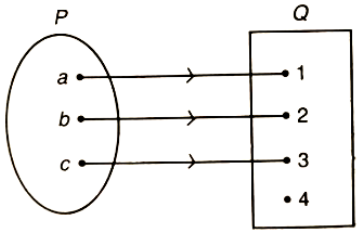
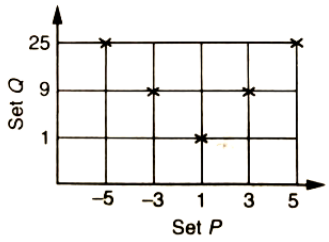
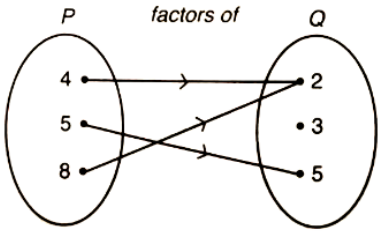
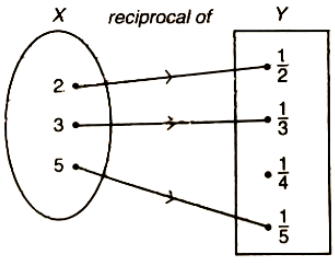
7. $fgh(x)$

8. $gfh(x)$

9. $hgf(x)$

Exercise 4

1	The arrow diagram represents a relation from set A and set B. State *Gambar rajah anak panah mewakili hubungan set A dan set B. Nyatakan* a. the type of the relation *jenis hubungan* b. the domain of the relation *domain bagi hubungan*	
2	The Cartesian graph represents relation from set X and set Y. State *Graf Cartesian mewakili hubungan set X dan set Y. Nyatakan* a. the type of the relation *jenis hubungan* b. the range of the relation *julat bagi hubungan* c. Whether the relation is a function *Adakah hubungan ini fungsi*	
3	The arrow diagram represents the relation between the elements of two sets, A and B. *State Gambah rajah anak panah mewakili hubungan antara unsur dua set, A dan B. Nyatakan* a. The set of ordered pairs *set pasangan bertertib* b. The object of 4 *objek bagi 4*	
4	The Cartesian graph shows a relation from Set A = {1, 3, 7} to Set B = {2, 5, 6, 9}. *State* *Graf Cartesian menunjukkan hubungan daripada Set A = {1, 3, 7} kepada Set B = {2, 5, 6, 9}. Nyatakan* a. The images of 3 *imej bagi 3* b. The objects of 2 *objek bagi 2*	

5	The arrow diagram shows the relation between set P and set Q. *Gambar rajah anak panah menunjukkan hubungan antara set P dan set Q.* State *Nyatakan* a. The codomain *Kodomain* b. The range of the relation *Julat bagi hubungan*	
6	The Cartesian graph represents a relation from set P and set Q. *Graf Cartesian mewakili hubungan dari set P dan set Q.* State *Nyatakan* a. The objects of 9 *objek bagi 9* b. The type of the above relation *Jenis hubungan*	
7	The following information is about sets P and Q. *Infomasi berikut mengenai set P dan set Q.* P = {2, 4, 6, 8} Q = {3, 7, 11, 15, 19} The relation from set P and set Q is defined by the following set of ordered pairs: *Hubungan set P dan set Q ditakrifkan set pasangan tertib berikut:* {(2, 3), (4, 7), (6, 11), (8, 15)} State *Nyatakan* a. The type of the relation / *Jenis hubungan* b. The range of the relation / *Julat bagi hubungan*	
8	The arrow diagram shows a relation 'factors of' from set. *Gambar rajah anak panah menunjukkan hubungan 'faktor bagi'* P = {4, 5, 8} to / *kepada* set Q = {2, 3, 5} a. State whether the relations is a function. *Nyatakan sama ada hubungan ini ialah fungsi.* b. Represents the relation using set of ordered pairs. *Mewakilkan hubungan dengan set pasangan tertib.*	
9	The arrows diagram represents a relation from set X = {2, 3, 5} to set Y = $\{\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}\}$. The relation is defined by 'reciprocal of' *Anak panah mewakili hubungan set X = {2, 3, 5} kepada Y =* $\{\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}\}$. *Hubungan adalah ditakrifkan sebagai 'bersaling'* State *Nyatakan* a. The codomain *Kodomain* b. The range of the above codomain. *Julat kodomain*	

Exercise 5

1. The function f is defined by $f: x \to 3x + 1$.Another function g is such that $gf: \to x \frac{5}{3x+1}$, $x \neq -\frac{1}{3}$. Find the function g.
   Fungsi f ditakrifkan $f: x \to= 3x + 1$. *Fungsi yang lain g seperti* $gf: \to x = \frac{5}{3x+1}$, $x \neq -\frac{1}{3}$. *Cari fungsi* g.

2. The function f is defined by $f(x) = x - 9$.Another function g is such that $fg: x \to \frac{2}{3}x$. Find the value of $g(-3)$.
   Fungsi f ditakrifkan $f(x) = x - 9$, *fungsi yang lain g seperti* $fg: x \to \frac{2}{3}x$. *Cari nilai bagi* $g(-3)$.

3. Given that $f: x = 4x - k$ and $g: x = x - 2$, find the possible value of m and of k if $fg: x \longrightarrow mx + 8$.
   Diberi $f: x = 4x - k$ *dan* $g: x = x - 2$, *cari nilai m dan k yang mungkin jika* $fg: x \longrightarrow mx + 8$.

4. The function f and g are defined by $f: x \longrightarrow h + x$ and $g: x \longrightarrow kx - 3$ repectively. If the composite function fg is given by $fg: x \longrightarrow 2x + 1$, find the value of h and of k.
   Fungsi f dan g ditakrifkan $f: x \longrightarrow h + x$ *dan* $g: x \longrightarrow kx - 3$ *masing-masing. Jika fungsi gubahan fg diberi sebagai* $fg: x \longrightarrow 2x + 1$, *cari nilai h dan k.*

5. Given that $f(x) = 3x + 2$ and $fg(x) = 4 - 2x$, find $gf(x)$.
   Diberi $f(x) = 3x + 2$ *dan* $fg(x) = 4 - 2x$, *cari* $gf(x)$.

Exercise 6

1. If $m: x \longrightarrow \frac{1}{4}x$ and $n: x \longrightarrow 2x + 5$, find $\mathrm{m}^{-1}\mathrm{n}^{-1}$. *Jika* $m: x \longrightarrow \frac{1}{4}x$ *dan* $n: x \longrightarrow 2x + 5$, *cari* $m^{-1}n^{-1}$.
   Jika $m: x \longrightarrow \frac{1}{4}x$ *dan* $n: x \longrightarrow 2x + 5$, *dapatkan* $m^{-1}n^{-1}$.

2. The functions f and g are such that $f(x) = \mathrm{x}^2 + x + 2$ and $\mathrm{g(x)} = \mathrm{x} - 1$.Calculate the value of $\mathrm{g}^{-1}f(-1)$.
   Fungsi f *dan* g *adalah seperti* $f(x) = x^2 + x + 2$ *dan* $g(x) = x - 1$. *Kirakan nilai bagi* $g^{-1}f(-1)$.

3. Given that $\mathrm{g}^{-1}: x \longrightarrow \frac{x+3}{2x}$, $x \neq 0$, find $g(x)$.
   Diberi bahawa $g^{-1}: x \longrightarrow \frac{x+3}{2x}$, $x \neq 0$, *cari* $g(x)$.

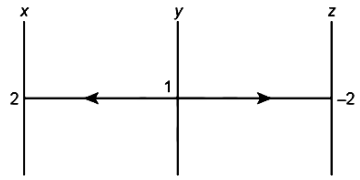
4. The inverse of $f(x) = \frac{2x+p}{5}$ is given by $\mathrm{f}^{-1}(x) = \frac{5x+3}{q}$. Find the value of p and of q. IMPORTANT
   Fungsi songsang $f(x) = \frac{2x+p}{5}$ *diberi sebagai* $f^{-1}(x) = \frac{5x+3}{q}$. *Cari nilai* p *dan* q.

5. Given the function $g: x \longrightarrow \frac{x}{\mathrm{k}^2 - x}$, $x \neq \mathrm{k}^2$ and its inverse function $\mathrm{g}^{-1}: x \longrightarrow \frac{9x}{x+1}$, $x \neq -1$, find the possible values of k.
   Diberi bahawa fungsi $g: x \longrightarrow \frac{x}{k^2 - x}$, $x \neq k^2$ *dan fungsi songsangnya* $g^{-1}: x \longrightarrow \frac{9x}{x+1}$, $x \neq -1$, *cari nilai-nilai kemungkinan bagi* k.

6. Given that $f: x = \frac{x+2}{\mathrm{x}}$, $x \neq 0$.find the values of k such that $\mathrm{f}^{-1}(3k) = k$.
   Diberi $f: x = \frac{x+2}{x}$, $x \neq 0$. *Cari nilai* k *seperti mana* $f^{-1}(3k) = k$.

Challenge 1

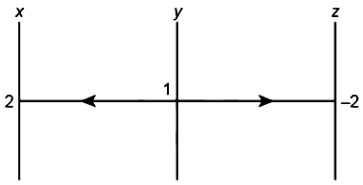
1. Diagram shows the mapping of y onto x by the function $f(y) = 5y - 3$ and the mapping of y onto z by the function $g(y) = \frac{m}{4y-1}, y \neq \frac{1}{4}$.
Rajah menunjukkan pemetaan y kepada x di bawah fungsi $f(y) = 5y - 3$ *dan memetakan y kepada z di bawah fungsi* $g(y) = \frac{m}{4y-1}, y \neq \frac{1}{4}$.



a. Find the value of m. *Cari nilai m.*

b. Find the function which maps x onto y. *Cari fungsi yang memetakan x kepada y.*

c. Find the function which maps x onto z. *Cari fungsi yang memetakan x kepada z.*



2. The function f is defined by $f: x \to \frac{8}{x}, x \neq 0$. Find the expression for each of the following functions.
Fungsi f ditakrifkan $f: x \to \frac{8}{x}, x \neq 0$. *Cari ungkapan bagi setiap fungsi berikut.*
a. f^2
b. f^3
c. Hence, find the expression of f^{40} and f^{41}.
Seterusnya, cari ungkapan bagi f^{40} *dan* f^{41}.

3. Functions f, g and h are defined by the following: *Fungsi-fungsi f, g, dan h didefinisikan seperti berikut:*

$f: x \to x^2 + 3x$

$g: x \to 5 - 2x$

$h: x \to x^3 + 1$

Evaluate the following: *Nilaikan setiap yang berikut:*

a. fgh (-1)
b. ghf (1)

by 冰姐讲数 MathTalk
Website: afterclass.my
Tel: 016 - 538 4655

Tutorial 1

1. A function f is defined by $f(x) = kx - 2$. Find the value of k if $f^{-1}(x) = \frac{x+2}{5}$.
   Satu fungsi f ditakrifkan $fx = kx - 2$. *Cari nilai k jika* $f^{-1}(x) = \frac{x+2}{5}$.

2. Given the function $f^{-1}(x) = k - 2x$, where k is a constant and $f(4) = 3$, find
   Diberi fungsi $f^{-1}(x) = k - 2x$, *yang mana k ialah pemalar dan* $f(4) = 3$, *cari*

   a. The value of k / *Nilai k.*
   b. $f^2(x)$.

3. Given the function $f(x) = 7x$, find the values of k for which $ff^{-1}(2k^2 - 4) = f(k)$.
   Diberi fungsi $f(x) = 7x$, *cari nilai k yang mana* $ff^{-1}(2k^2 - 4) = f(k)$.

4. A function f is defined by $f(x) = \frac{k+x}{3-2x}, x \neq \frac{3}{2}$, where k is a constant. Find the value of k if $f^{-1}(3) = 3$.
   Fungsi f ditakrifkan sebagai $f(x) = \frac{k+x}{3-2x}, x \neq \frac{3}{2}$, *yang mana k ialah pemalar. Cari nilai k jika* $f^{-1}(3) = 3$.

5. Given that $h(x) = 2x - 1$, find the value of x if $h^2(x) = h^{-1}(x)$.
   Diberi bahawa $h(x) = 2x - 1$, *cari nilai x jika* $h^2(x) = h^{-1}(x)$.

6. It is given that $f^{-1}(x) = 2x + p$, where p is a constant. If $f(2) = 3$, find the value of p.
   Diberi bahawa $f^{-1}(x) = 2x + p$, *yang mana p ialah pemalar. Jika* $f(2) = 3$, *cari nilai p.*

7. Sketch the graph of the function $f(x) = |x + 2|$ for the domain $-3 \leq x \leq 1$.
   Lakarkan graf fungsi $f(x) = |x + 2|$ *bagi domain* $-3 \leq x \leq 1$.

8. Sketch the graph of the function $f(x) = |4x - 3|$ for the domain $-1 \leq x \leq 3$.
   Lakarkan graf fungsi $f(x) = |4x - 3|$ *bagi domain* $-1 \leq x \leq 3$.

9. Given the function $f(x) = |3x - 7|$, find the values of function x that satisfy $f(x) = 4$.
   Diberi fungsi $f(x) = |3x - 7|$, *cari nilai-nilai x yang memuaskan* $f(x) = 4$.

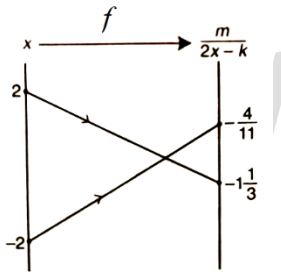
Tutorial 2

1. Given the function $f(x) = 2x^2 + 3x$, find the objects that have the image 2.
   Diberi fungsi $f(x) = 2x^2 + 3x$, dapatkan objek yang menpunyai imej 2.

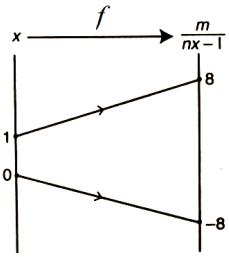
2. Given the function $g(x) = \frac{4x+7}{x-2}$, $x \neq 2$, find the objects that are mapped onto themselves.
   Diberi fungsi $g(x) = \frac{4x+7}{x-2}$, $x \neq 2$, dapatkan objek yang memetakan pada diri sendiri, find the objects that are mapped onto themselves.

3. Given the function $h: x \longrightarrow \frac{x-6}{x^2-4}$, state the values of x such that the function h is undefined.
   Diberi fungsi $h: x \longrightarrow \frac{x-6}{x^2-4}$, nyatakan nilai x sebegitu fungsi h tidak memastikan.

4. The arrow diagram represents the function $f: x \longrightarrow \frac{m}{2x-k}$, $x \neq \frac{k}{2}$, where m and k are constants. Find the value of m and of k.
   Gambar rajah anak panah mewakili fungsi $f: x \longrightarrow \frac{m}{2x-k}$, $x \neq \frac{k}{2}$, yang mana m dan k ialah pemalar. Cari nilai m dan k.



5. The arrow diagram represents the function $f(x) = \frac{m}{nx-1}$, $x \neq \frac{1}{n}$.
   Find the value of m and of n.
   Gambar rajah anak panah mewakili fungsi $f(x) = \frac{m}{nx-1}$, $x \neq \frac{1}{n}$.
   Cari nilai m dan n.



6. Given the function $g(x) = 3x^2 - 5$, find the values of t such that $g(t) = -\frac{7}{2}t$.
   Diberi fungsi $g(x) = 3x^2 - 5$, cari nilai t apabila $g(t) = -\frac{7}{2}t$.

Tutorial 3

1. Given the function $f(x) = \frac{x+3}{x-1}$, $x \neq 1$ and $g(x) = 2x + 5$, calculate the value of $g(f) = 3$.
   Diberi fungsi $f(x) = \frac{x+3}{x-1}$, $x \neq 1$ *dan* $g(x) = 2x + 5$,*calculate the value of* $g(f) = 3$.

2. Given the function $f(x) = |x|$ and $g(x) = \sqrt{x-1}$, $x \geq 1$ calculate the value of $gf(-26)$.
   Diberi fungsi $f(x) = |x|$ *dan* $g(x) = \sqrt{x-1}$, $x \geq 1$, *kirakan nilai* $gf(-26)$.

3. Given the functions $h(x) = (x+1)^2$, calculate the value of $h^2(-3)$.
   Diberi fungsi $h(x) = (x+1)^2$, *kirakan nilai bagi* $h^2(-3)$.

4. Given the functions $f(x) = p - 2x$ and $g(x) = 3x^2 - 7$, find the value of p if $fg(2) = 4$.
   Diberi fungsi $f(x) = p - 2x$ *dan* $g(x) = 3x^2 - 7$, *dapatkan nilai p jika* $fg(2) = 4$.

5. The function f and g are defined by $f: x \longrightarrow \frac{2x}{x-2}$, $x \neq 3$ and $g: x = x + 4$ respectively.
   Find gf. *Fungsi* f *dan g adalah ditakrifkan* $f: x \longrightarrow \frac{2x}{x-2}$, $x \neq 3$ *dan* $g: x = x + 4$ *masing-masing.*
   Cari gf.

6. Given the function $f(x) = 2x + 5$ and $g(x) = 2x^2 + 1$, find
   Diberi fungsi $f(x) = 2x + 5$ *dan* $g(x) = 2x^2 + 1$, *cari*

   a. $fg(x)$
   b. The value of x when $fg(x) = 11x$
      Nilai x apabila $fg(x) = 11x$

7. Given that $g: x = x^2 - 3$, find g^2.
   Diberi bahawa $g: x = x^2 - 3$, *cari* g^2.

8. Given that $f(x) = \frac{2x+5}{x-2}$, $x \neq 2$, find $f^2(x)$.
   Diberi bahawa $f(x) = \frac{2x+5}{x-2}$, $x \neq 2$, *cari* $f^2(x)$.

9. The function f is defined by $f: x = x + 2$.Another function g is such that $fg: x = \frac{1}{x-1}$, $x \neq 1$. Find g.
   Fungsi f *adalah ditakrifkan* $f: x = x + 2$. *Satu fungsi yang lain g seperti* $fg: x = \frac{1}{x-1}$, $x \neq 1$. *Cari* g.

Tutorial 4

1. The function f is defined by $f: x \longrightarrow x - 1$.Another function g is such that $fg: x = \frac{4-x}{x-2}$, $x \neq 2$.
   Fungsi f adalah ditakrifkan $f: x \longrightarrow x - 1$. Satu fungsi yang lain g seperti $fg: x = \frac{4-x}{x-2}$, $x \neq 2$.

   a. Find the function g. *Dapatkan fungsi g.*

   b. State the value of x such that the function g is undefined.
   Nyatakan nilai x apabila fungsi g adalah tidak memastikan.

2. The function f is defined by $f: x = x + 2$.Another function g is such that $gf: x = x^2 - 3$. Find g.
   Fungsi f adalah ditakrifkan $f: x = x + 2$. Fungsi yang lain g adalah seperti $gf: x = x^2 - 3$. Dapatkan g.

3. Given that $f: x \longrightarrow 2x - 5$, find the value of $f^{-1}(3)$.
   Diberi fungsi $f: x \longrightarrow 2x - 5$, dapatkan nilai $f^{-1}(3)$.

4. Given the function $f: x \longrightarrow \frac{x}{x-2}$, $x \neq 2$, find f^{-1}.
   Diberi bahawa $f: x \longrightarrow \frac{x}{x-2}$, $x \neq 2$, dapatkan f^{-1}.

5. Given the function $f(x) \longrightarrow \frac{x+1}{x-1}$, , $x \neq 1$ and , $g(x) = 4x$, find , $fg^{-1}(x)$.
   Diberi fungsi $f(x) \longrightarrow \frac{x+1}{x-1}$, , $x \neq 1$ dan , $g(x) = 4x$, dapatkan , $fg^{-1}(x)$.

Tutorial 5

1. Given the function $\mathrm{m}(x) = 6 - 2(x)$, find the value of $\mathrm{m}^{-1}(-1)$.
   Diberi fungsi bahawa $m(x) = 6 - 2(x)$, *dapatkan nilai* $m^{-1}(-1)$.

2. Given the function $f(x) = 3x - 2$ and $g(x) = 2x + 5$, find $\mathrm{gf}^{-1}(x)$.
   Diberi fungsi $f(x) = 3x - 2$ *dan* $g(x) = 2x + 5$, *dapatkan* $gf^{-1}(x)$.

3. The functions f and g are defined by $f(x) = \frac{x}{2}$ and $g(x) = 1 + 4x$ respectively. Find $f\mathrm{g}^{-1}(x)$.
   Fungsi f *dan* g *adalah ditakrifkan* $f(x) = \frac{x}{2}$ *dan* $g(x) = 1 + 4x$ *masing-masing. Dapatkan* $fg^{-1}(x)$.

4. The function h is defined by
   Fungsi h adalah ditakrifkan
   $h: x \longrightarrow \frac{x+p}{x-q}$, $x \neq q$. If *Jika* $\mathrm{h}^{-1}: x \longrightarrow \frac{2+3x}{x-1}$, $x \neq 1$,
   Find the value of p and q.
   Dapatkan nilai p *dan* q.

5. Given that *Diberi bahawa*
   $h: x \longrightarrow \frac{a}{2x-1}$, $x \neq \frac{1}{2}$. If *Jika* $h^{-1}: x \longrightarrow \frac{5+x}{bx}$, $x \neq 0$,
   Find the value of a and b. *Cari nilai* a *dan* b.

6. Given the functions $\mathrm{f}(x) = 4 - 5x$ and $\mathrm{g}(x) = x^2 - 2$, find
   Diberi fungsi $f(x) = 4 - 5x$ *dan* $g(x) = x^2 - 2$, *dapatkan*

   a. $f^{-1}(x)$.
   b. The value of $f^{-1}g(4)$. *Nilai bagi* $f^{-1}g(4)$.

7. The function f and g^{-1} are defined by $f(x) = \frac{2x+5}{x-2}, x \neq 2$ and $g^{-1}(x) = 3 + x$ respectively. Find $g(x)$ and $f^2(x)$.
   Fungsi f *dan* g^{-1} *adalah ditakrifkan* $f(x) = \frac{2x+5}{x-2}, x \neq 2$ *dan* $g^{-1}(x) = 3 + x$ *masing-masing. Cari* $g(x)$ *dan* $f^2(x)$.

Answer *Jawapan*

Exercise 1

1. 0.75, 3.5
2. 6.5
3. $-2, 2$
4. $-3, 3$

Exercise 2

1. One-one *Satu-satu*
2. Many-one *Banyak-satu*
3. One-one *Satu-satu*
4. One-one *Satu-satu*
5. One-one *Satu-satu*
6. One-one *Satu-satu*
7. One-one *Satu-satu*
8. Many-one *Banyak-satu*

Exercise 3

1. $\frac{3x}{2}$
2. $\frac{2x+1}{2}$
3. $6x + 3$
4. $\frac{3x}{2}$
5. $6x + 3$
6. $x + 1$
7. $\frac{6x+3}{2}$
8. $\frac{6x+3}{2}$
9. $3x + 1$

Exercise 4

1. a. one-to-many relation b. vowel, consonant
2. a. one-to-one relation b. 1, 2, 3, 4 c.Yes
3. a. $\{(-2,4), (-1,1), (1,1), (2,4)\}$ b. $-2,2$
4. a. 5, 6 b. 1, 7
5. a. 1, 2, 3, 4 b.1, 2, 3
6. a. $-3,3$ b. many-to-one relation
7. a. one-to-one relation b. 3,7,11,15
8. a. Yes b. (4,2), (5,5) (8,2)
9. a. $\left\{\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}\right\}$ b. $\left\{\frac{1}{2}, \frac{1}{3}, \frac{1}{5}\right\}$

Exercise 5

1. $g: x \to \frac{5}{x}$
2. 7
3. $k = -16, m = 4$
4. $h = 4, k = 2$
5. $gf(x) = \frac{-2-6x}{3}$

Exercise 6

1. $m^{-1}n^{-1}: x \to 2x - 10$
2. 3
3. $g(x) = \frac{3}{2x-1}, x \neq \frac{1}{2}$
4. $p = -3, q = 2$
5. $k = \pm 3$
6. $k = -\frac{2}{3}\ or\ 1$

Challenge 1

1. a. $m = -6$ b. $f^{-1}x = \frac{x+3}{5}$ c. $gf^{-1}(x) = -\frac{30}{4x+7}, x \neq \frac{7}{4}$
2. a. x b. $\frac{8}{x}$ c. $f^{40} = x, f^{41} = \frac{8}{x}$
3. a.40 b.-125

Tutorial 1

1. $k = 5$
2. a. $k = 10$ $\quad b. f^2(x) = \frac{10+x}{4}$
3. $k = -\frac{1}{2} or\ 4$
4. $k = -12$
5. $x = 1$
6. $p = -4$
7. Pls. refer to video
8. Pls. refer to video
9. $x = 3\frac{2}{3}\ or\ 1$

Tutorial 2

1. $\frac{1}{2}$ or -2
2. -1 or 7
3. ± 2
4. $m = 4, k = 7$
5. $m = 8, n = 2$
6. $t = \frac{5}{6}\ or\ t = -2$

Tutorial 3

1. 11
2. 5
3. 25
4. 14
5. $g: x \longrightarrow \frac{6x-8}{x-2}, x \neq 2$
6. a. $fg(x) = 4x^2 + 7$ b. $x = 1 \text{or } 1\frac{3}{4}$
7. $g^2: (x) = x^4 - 6x^2 + 6$
8. $f^2(x) = x$
9. $g: x \rightarrow \frac{3-2x}{x-1}, x \neq 1$

Tutorial 4

1. a. $g: x \rightarrow \frac{2}{x-2}$ b. $x = 2$
2. $g: x \rightarrow x^2 - 4x + 1$
3. 4
4. $f^{-1}: x \rightarrow \frac{2x}{x-1}, x \neq 1$
5. $fg^{-1}(x) = \frac{x+4}{x-4}, x \neq 4$

Tutorial 5

1. $3\frac{1}{2}$
2. $gf^{-1}(x) = \frac{2x+19}{3}$
3. $fg^{-1}(x) = \frac{x-1}{8}$
4. $p = 2, q = 3$
5. $a = 5, b = 2$
6. a. $f^{-1}(x) = \frac{4-x}{5}$ b. -2
7. $g(x) = x - 3$ ， $f^2(x) = x$

热卖中

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一年级数学

二年级数学

三年级数学

四年级数学

五年级数学

六年级数学

独中初一数学

独中初二数学

独中初三数学

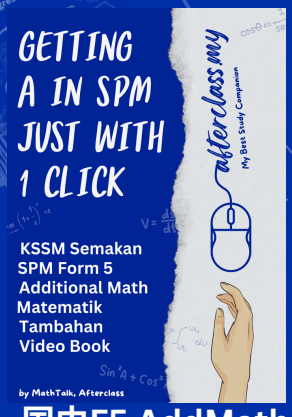
国中F1 Math

国中F2 Math

国中F3 Math

国中F4 Math

国中F5 Math



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