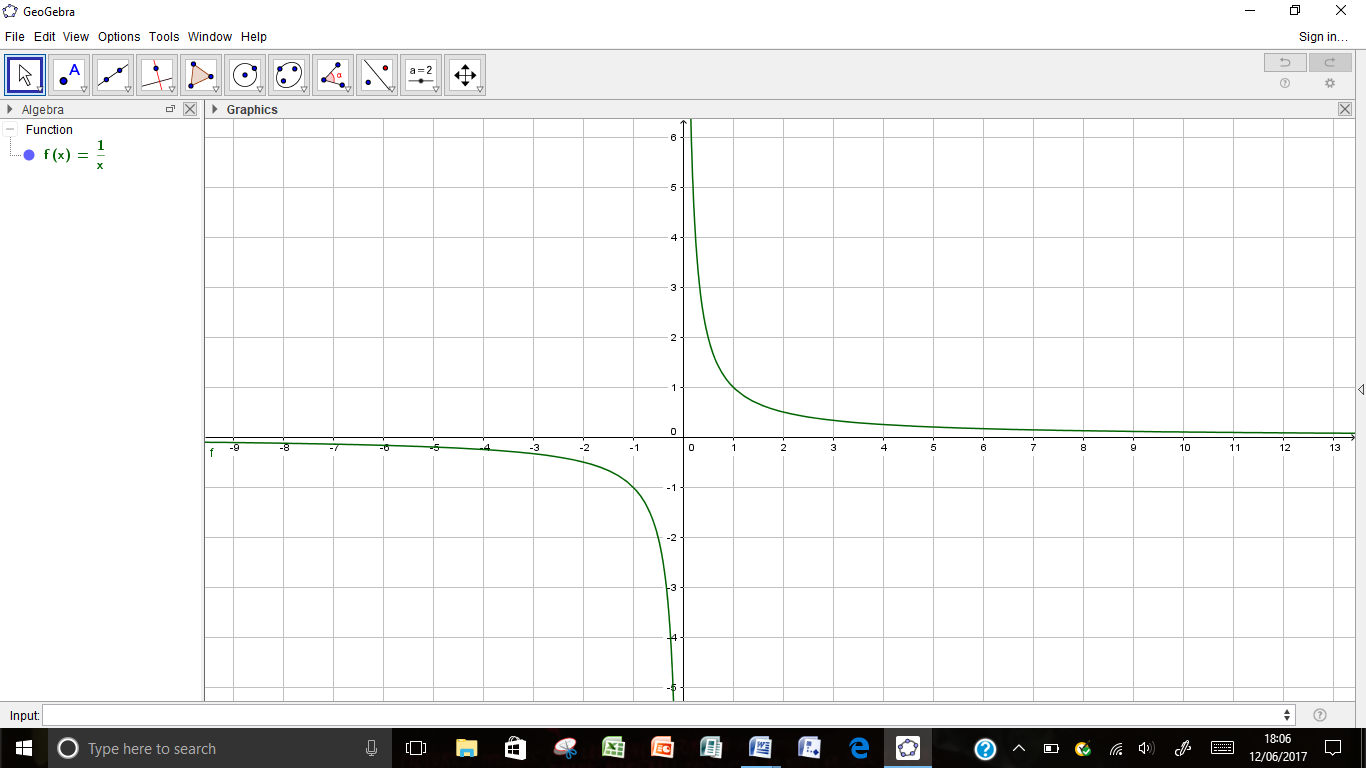
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| www.mathsrevision.com |
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| Advanced Higher - Unit 2.4 Properties of Functions - Solutions |

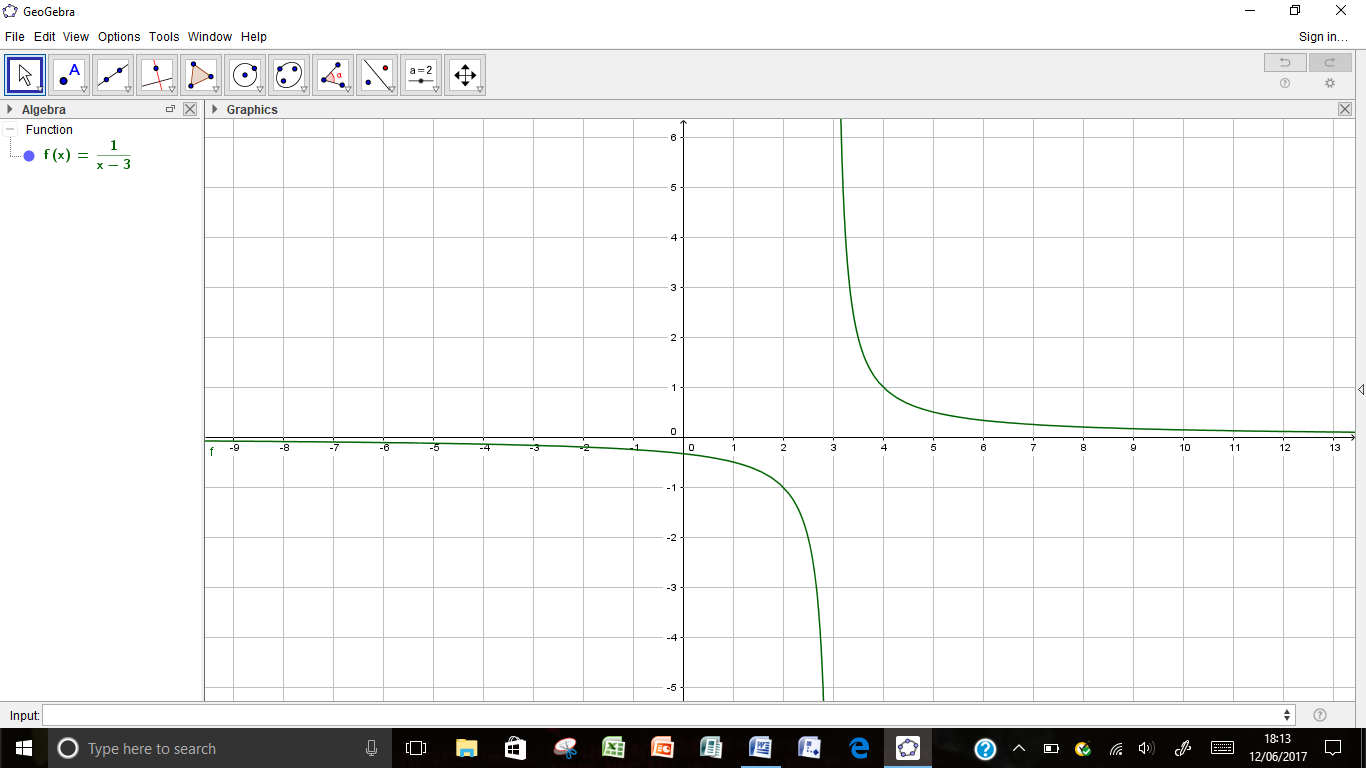
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| Mr. Lafferty BSC (Hons) Open MathSci & Mrs Bissett BSC (Hons) Glasgow |

Computer Task -

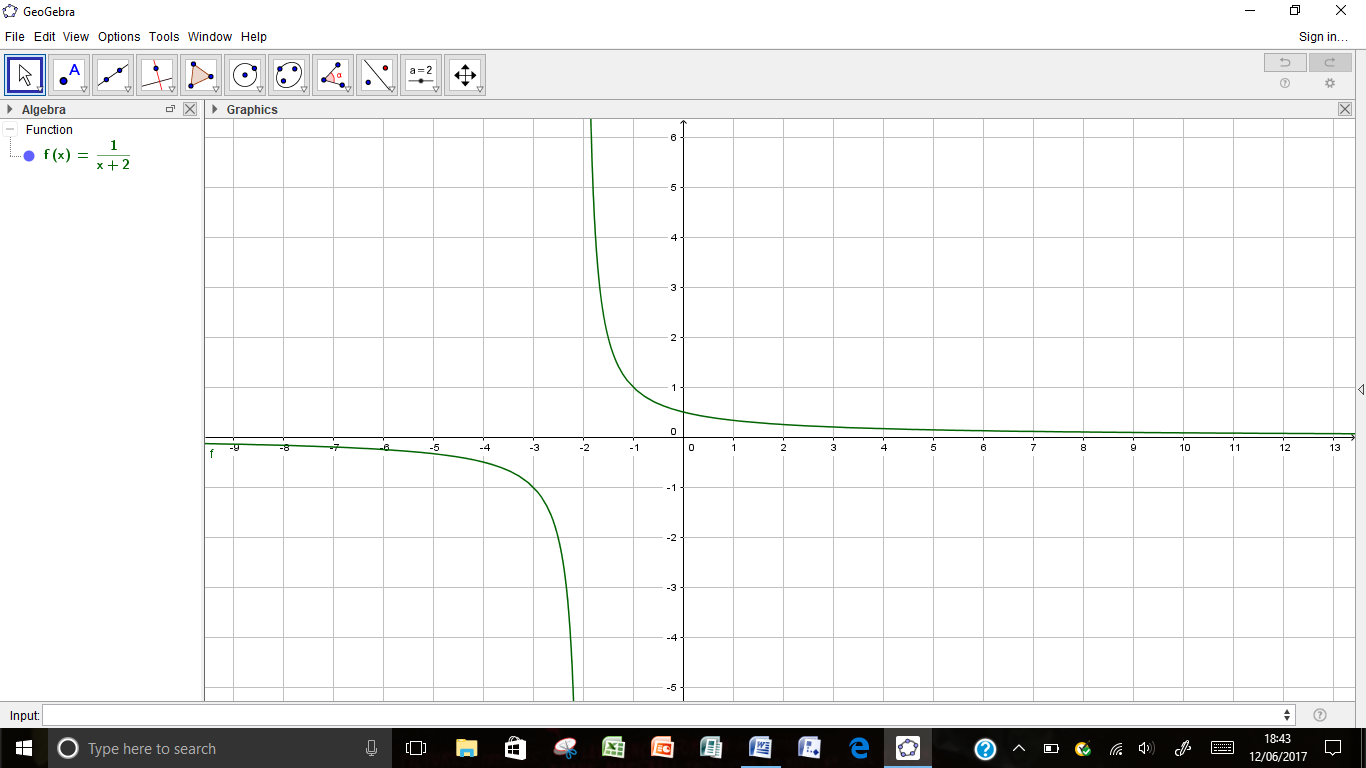


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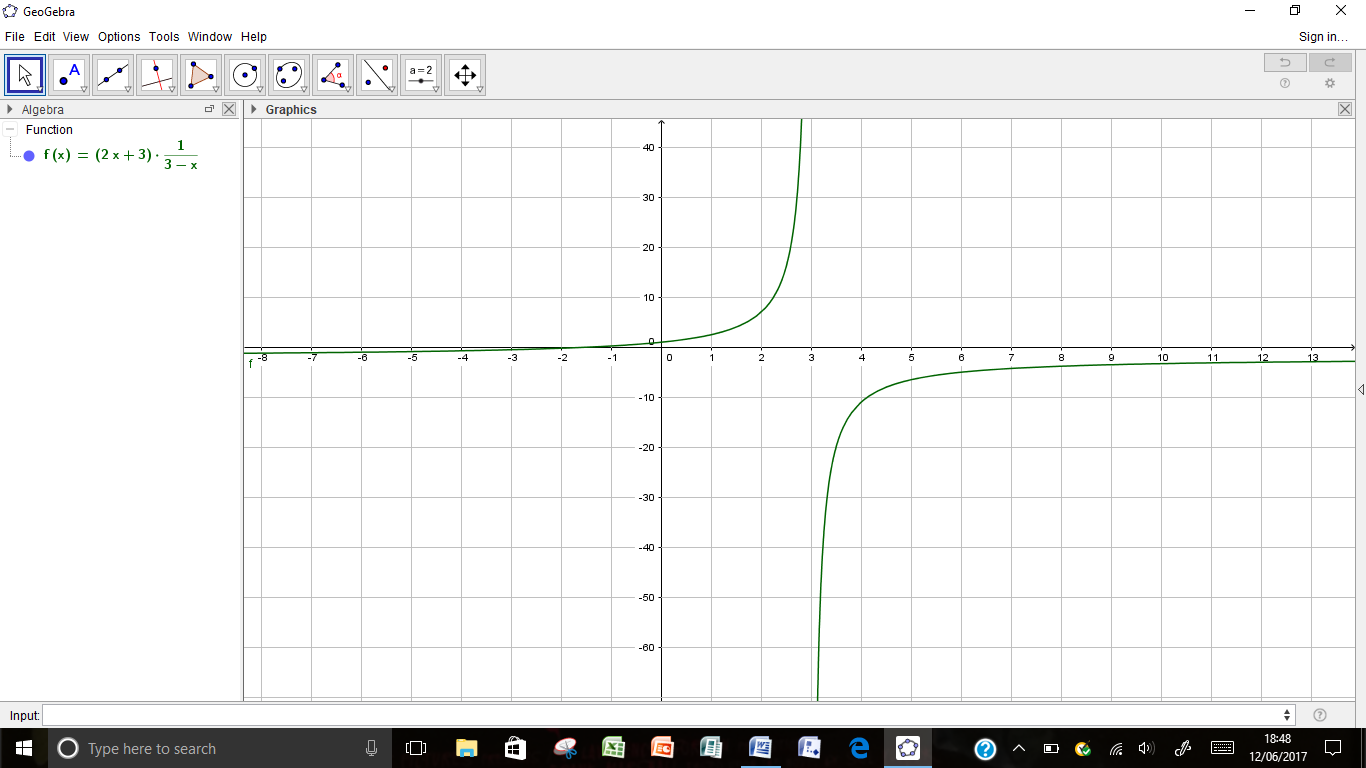








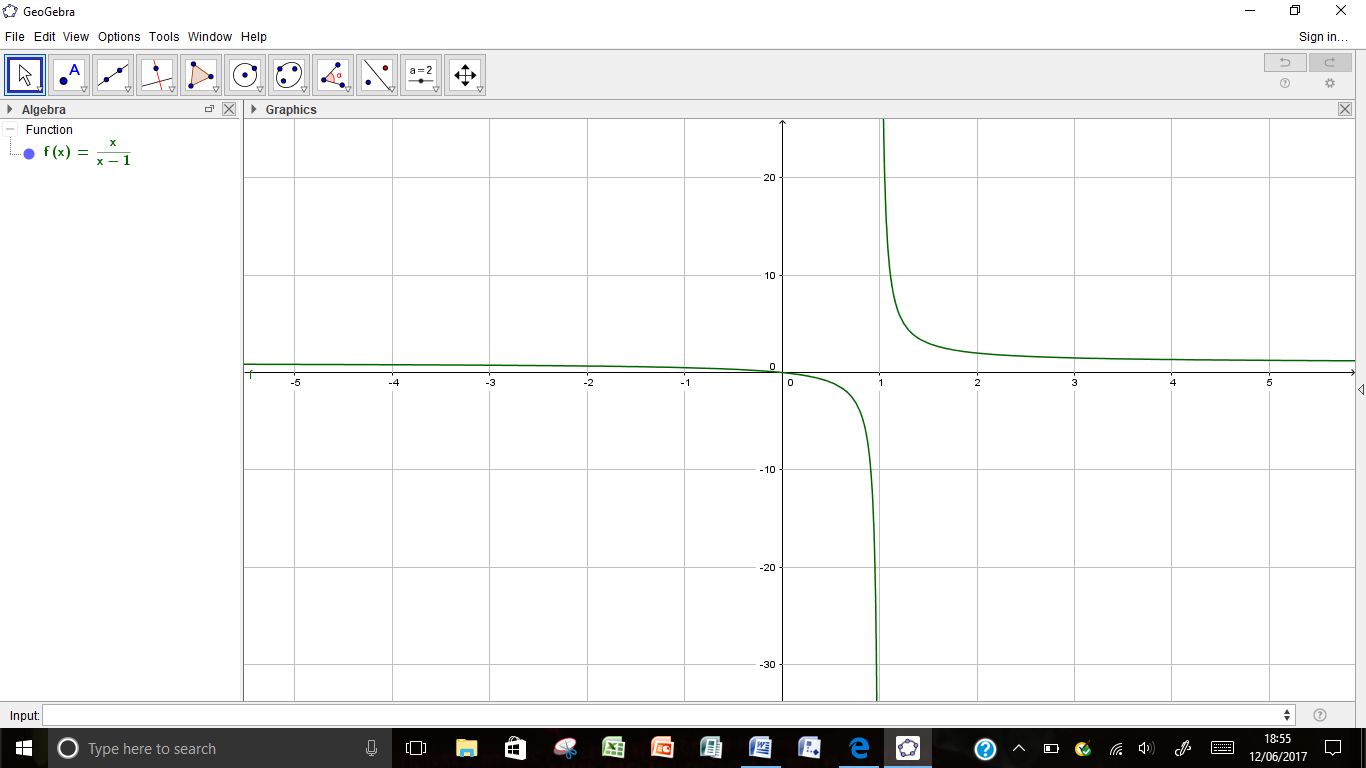


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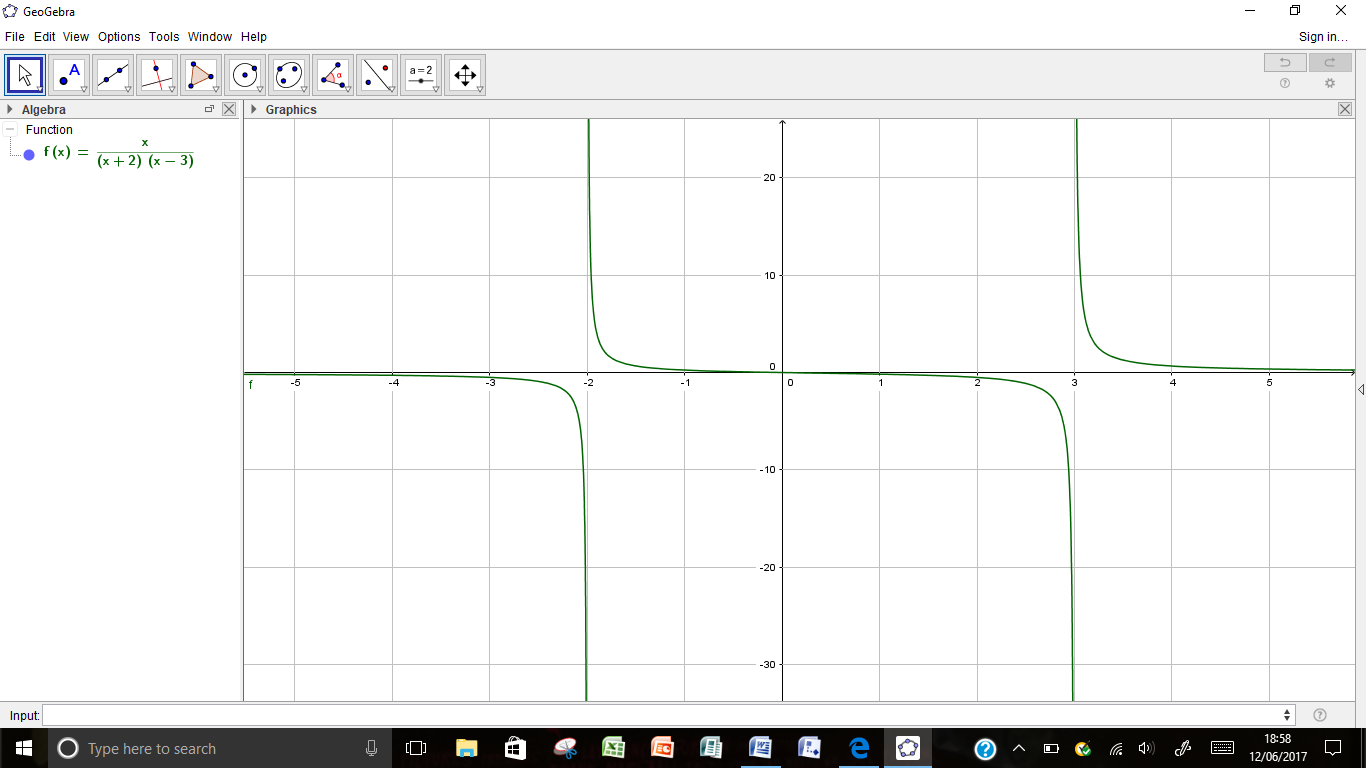


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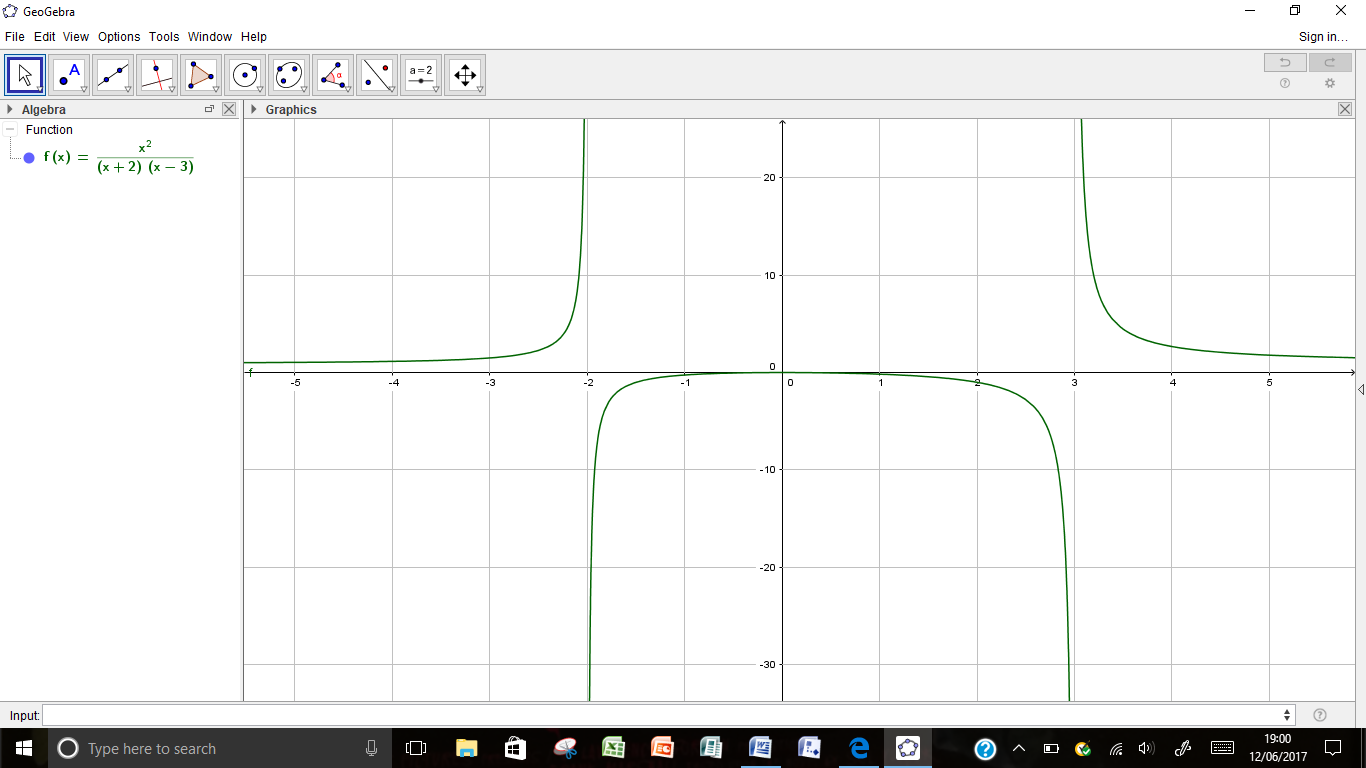


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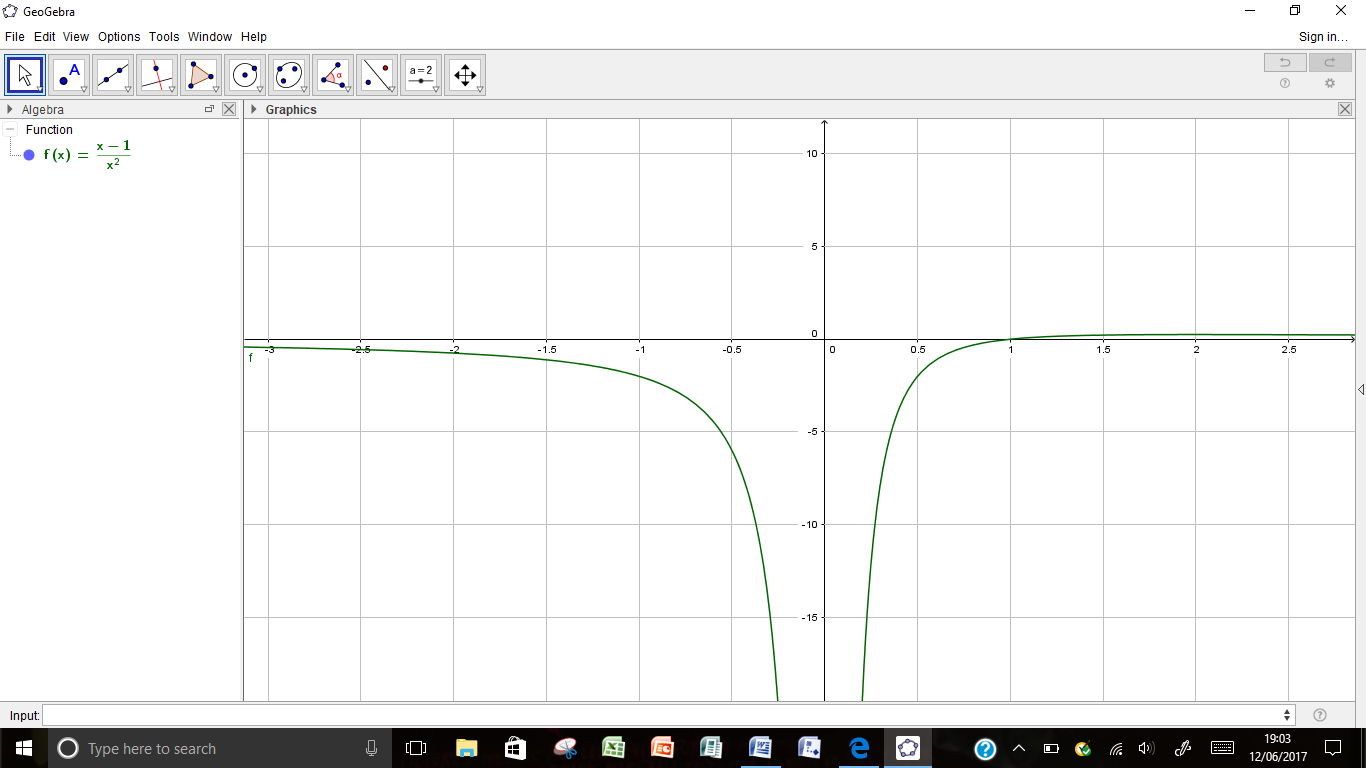


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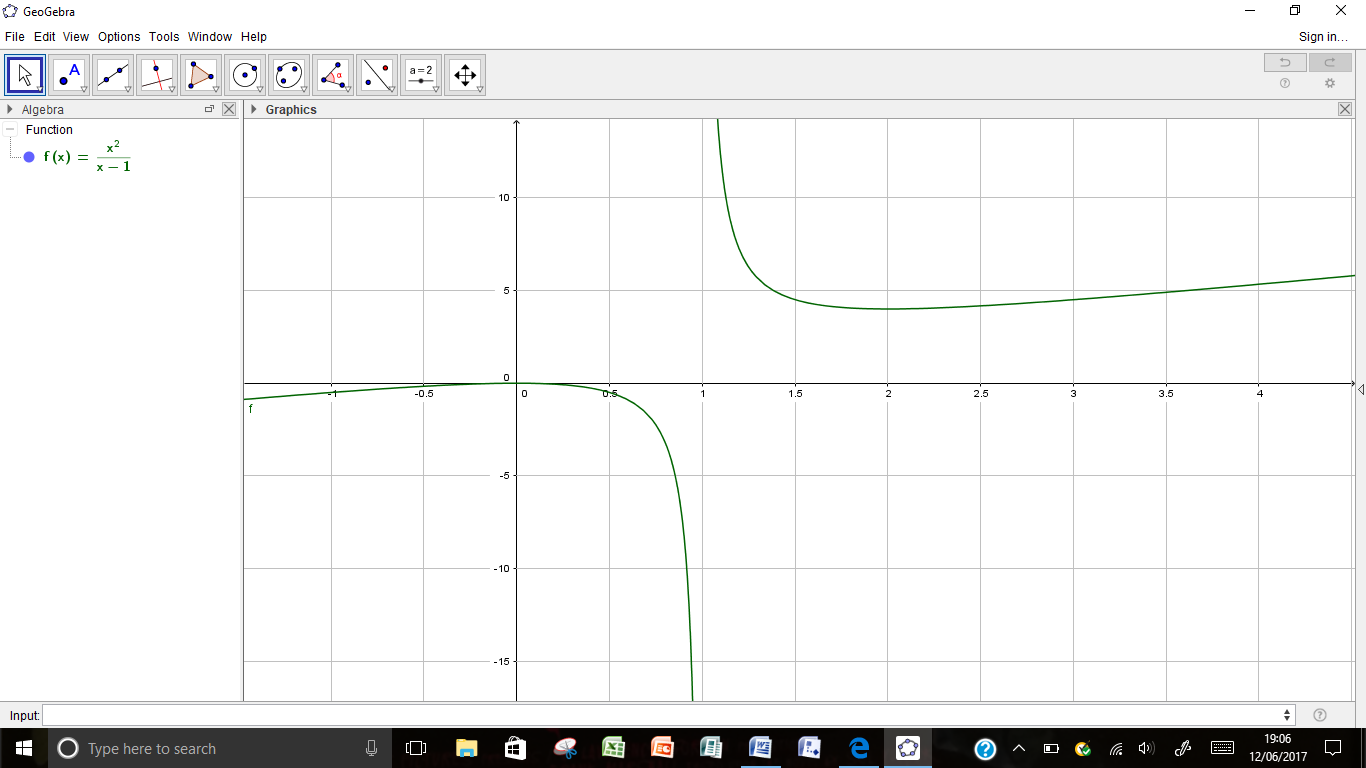


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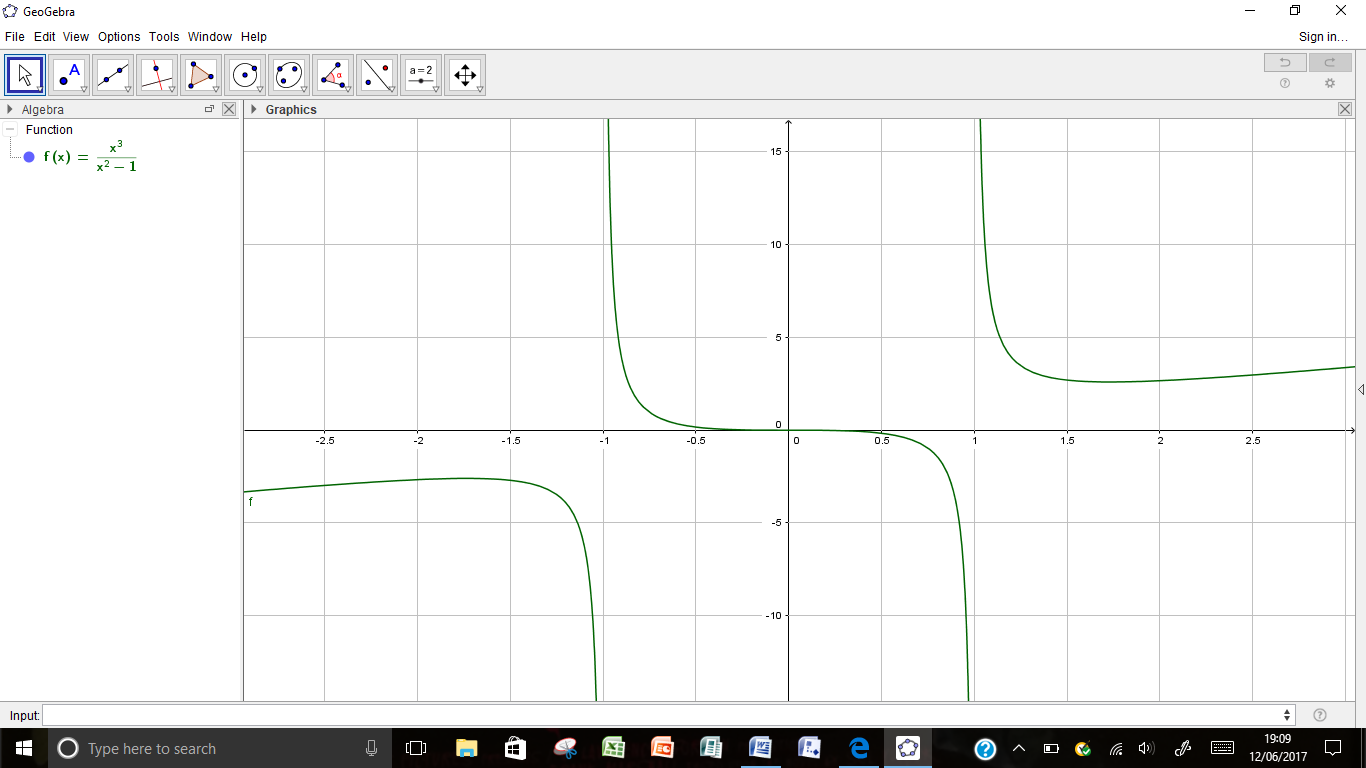


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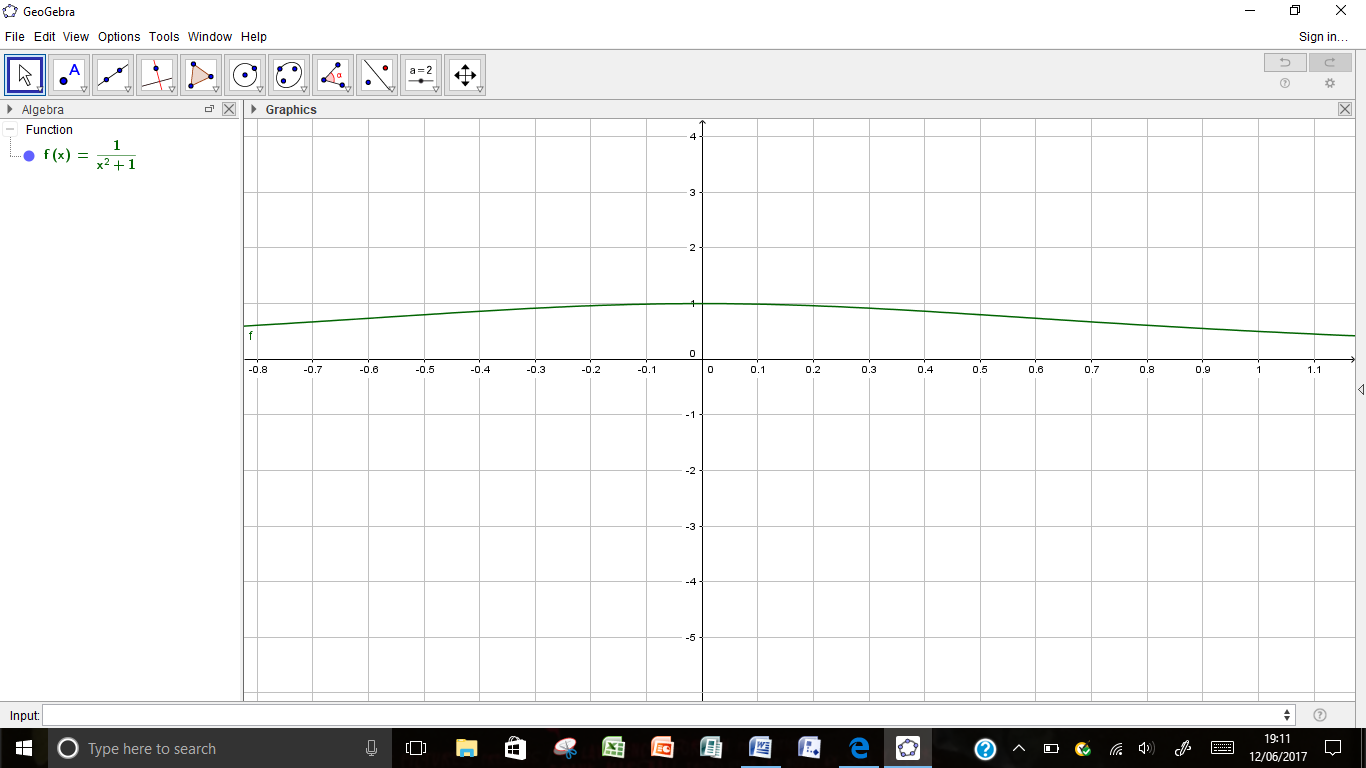


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Ex1 – Vertical Asymptotes

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Ex2 – Non Vertical Asymptote

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

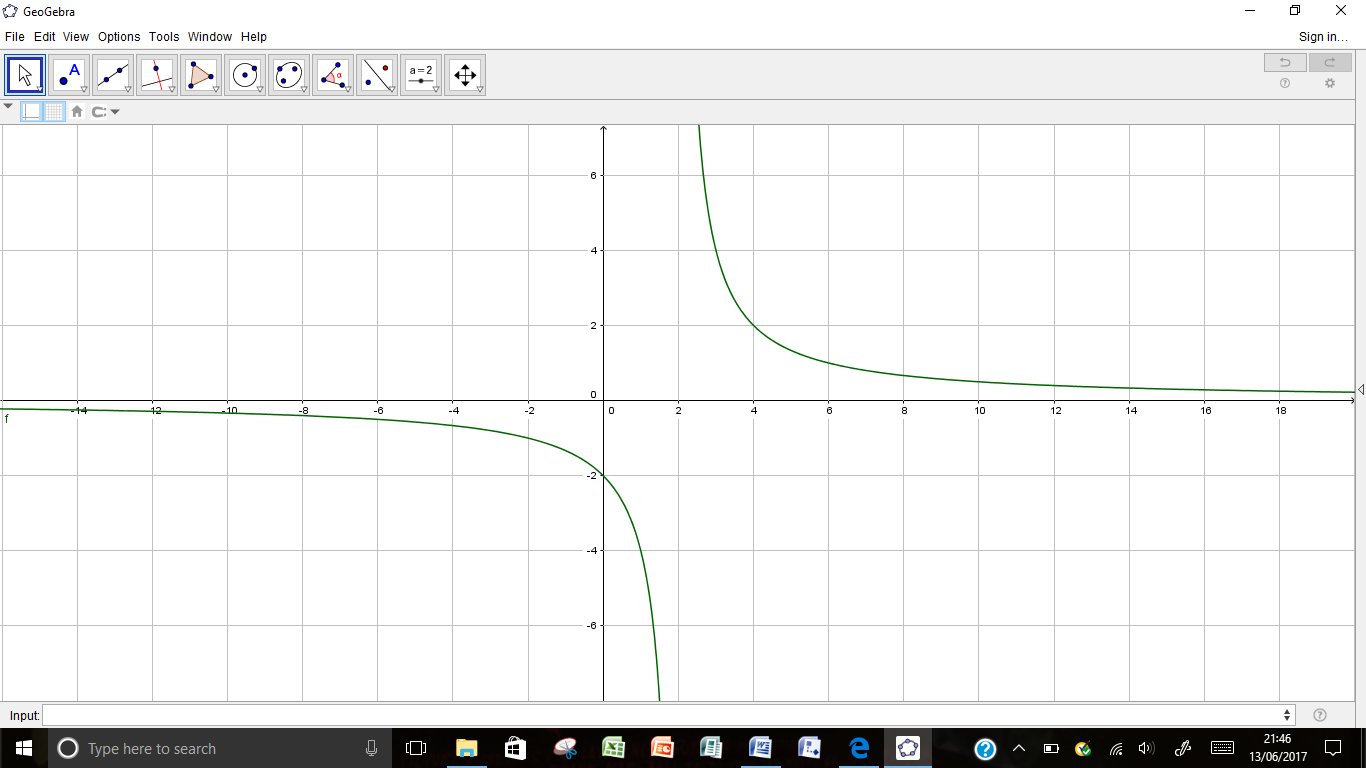
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Ex3 – Curve Sketching

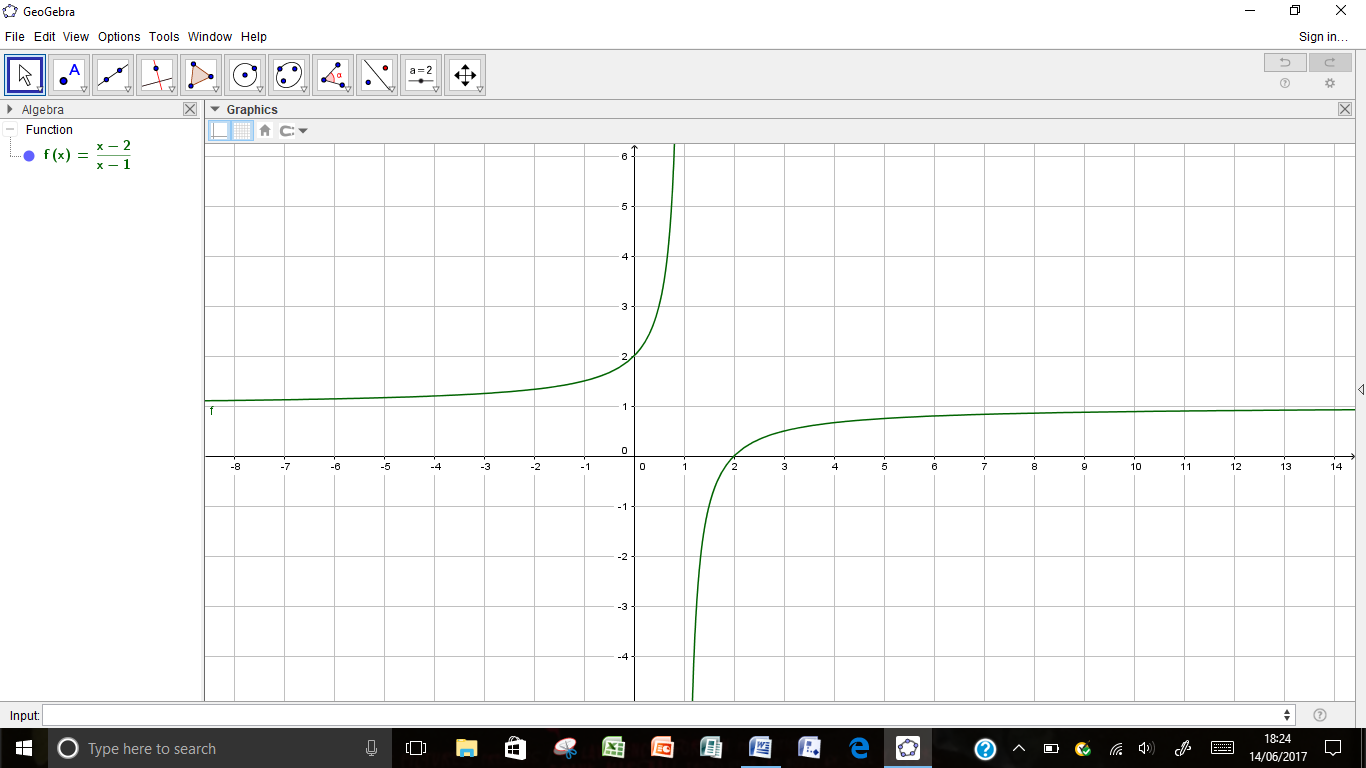
Process: 1. Find where curve crosses x and y axis.

2. Find all asymptotes.

3. Find stationary points and their nature.

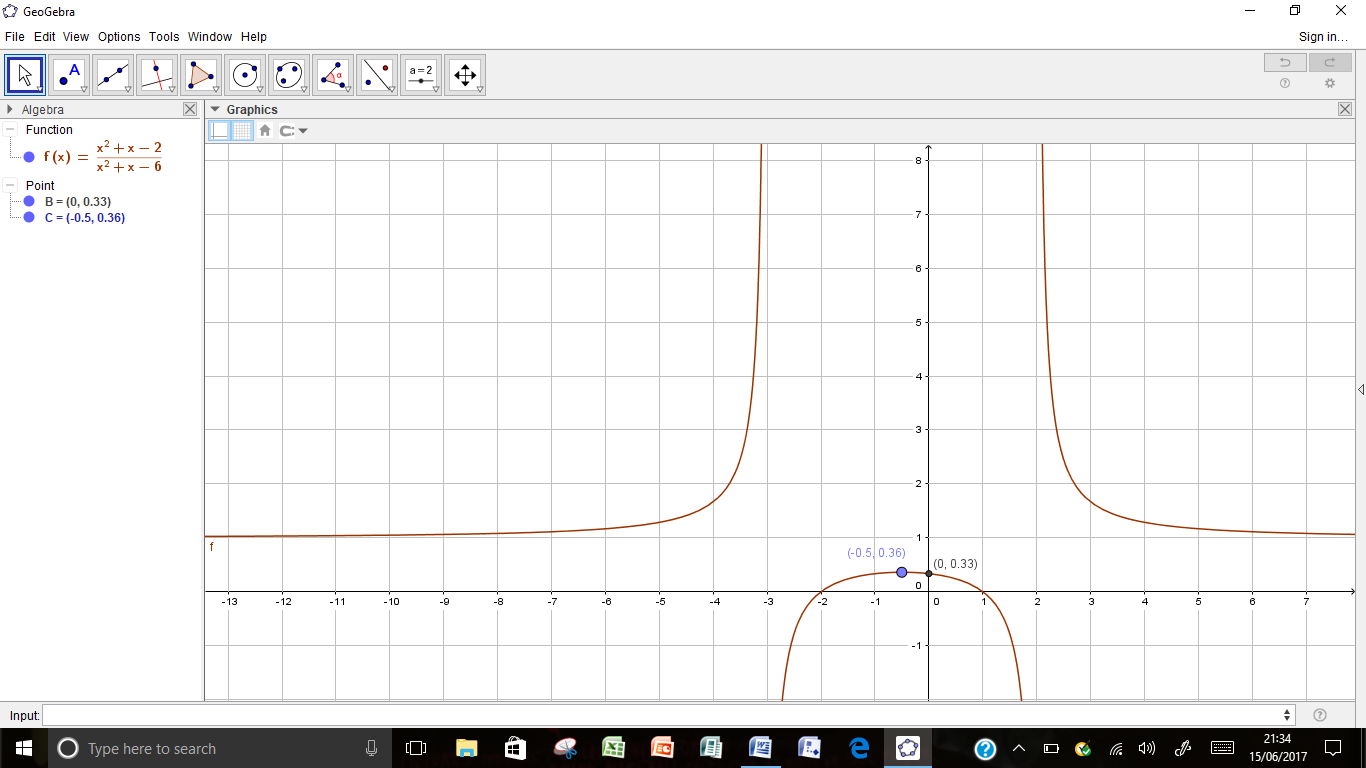


2.



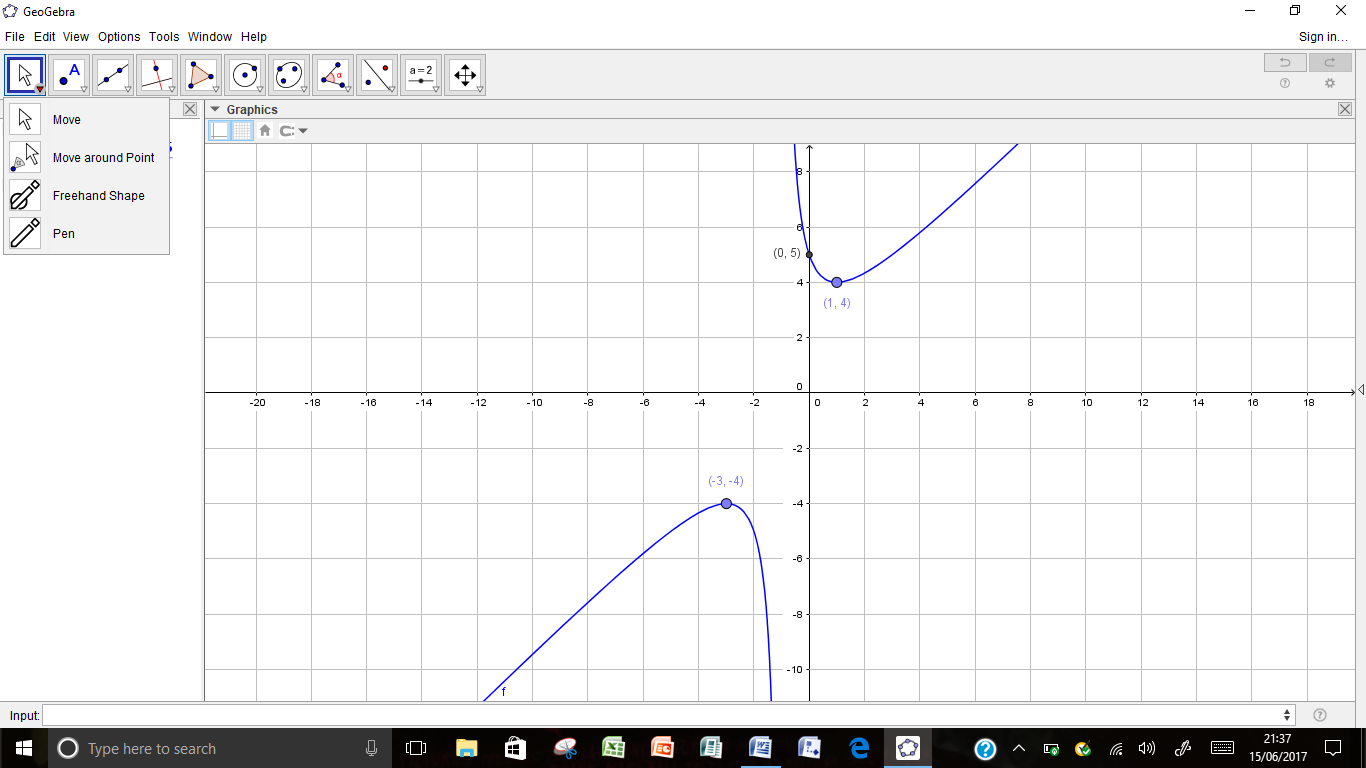
3.

|  |  |  |  |
| --- | --- | --- | --- |
| x | → |  | → |
| f’(x) | + | 0 | - |
| Shape |  |  |  |



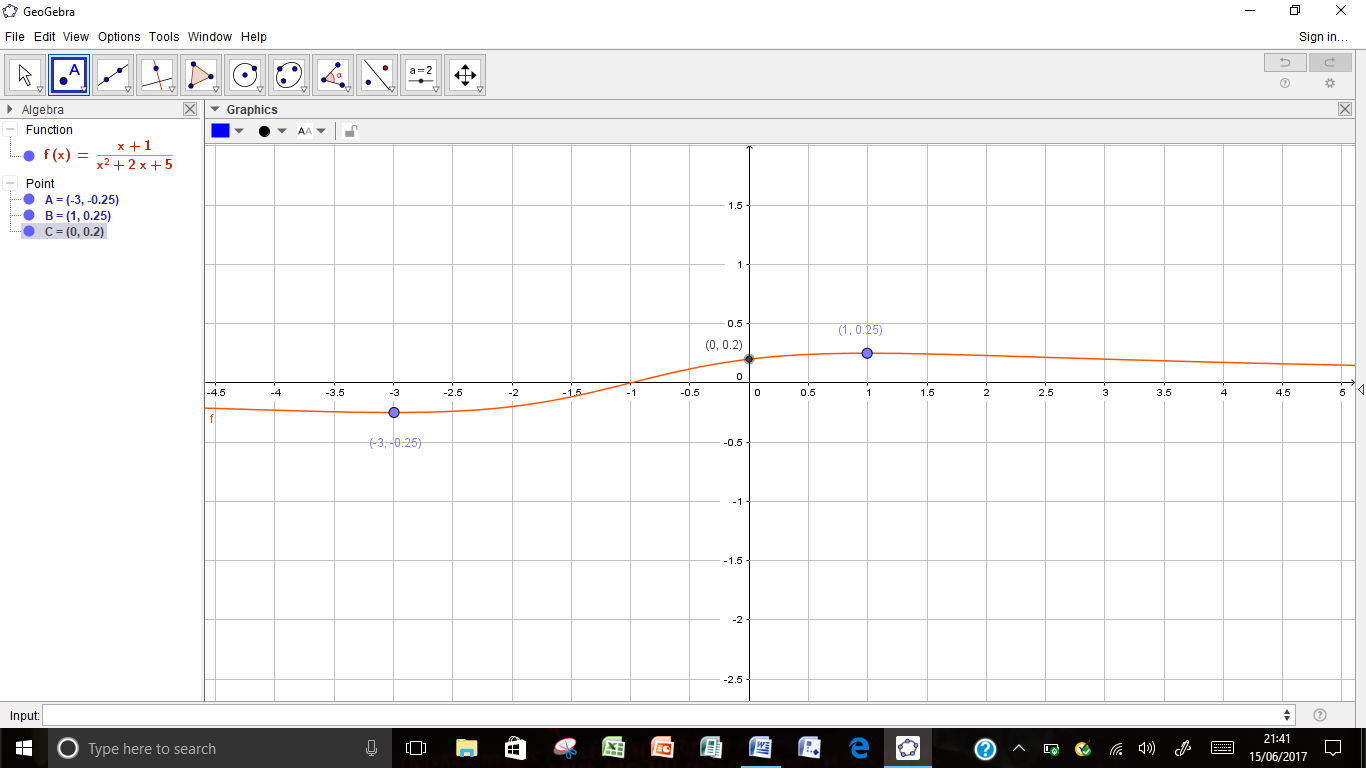
4.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| x | → | -3 | → | 1 | → |
| f’(x) | + | 0 | - | 0 | - |
| Shape |  |  |  |  |  |



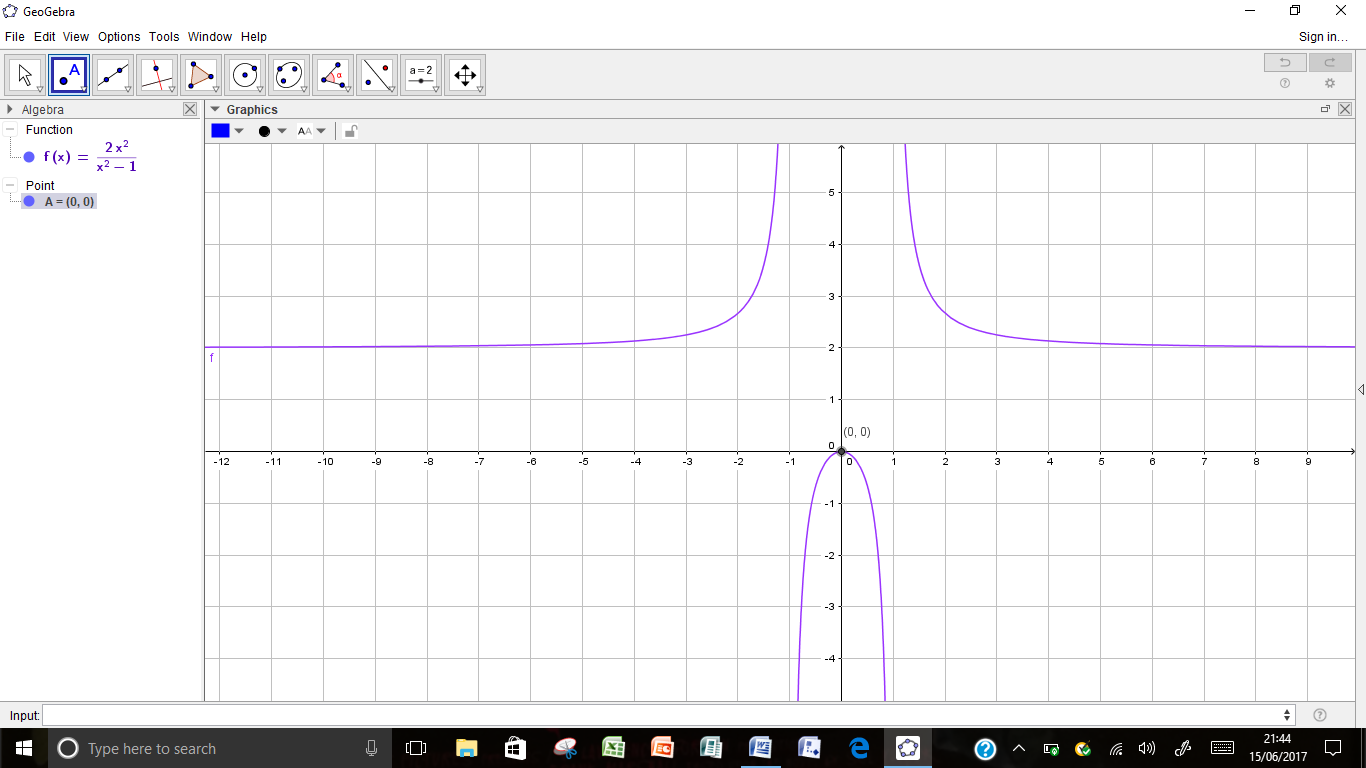
5.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| x | → | -3 | → | 1 | → |
| f’(x) | - | 0 | + | 0 | - |
| Shape |  |  |  |  |  |



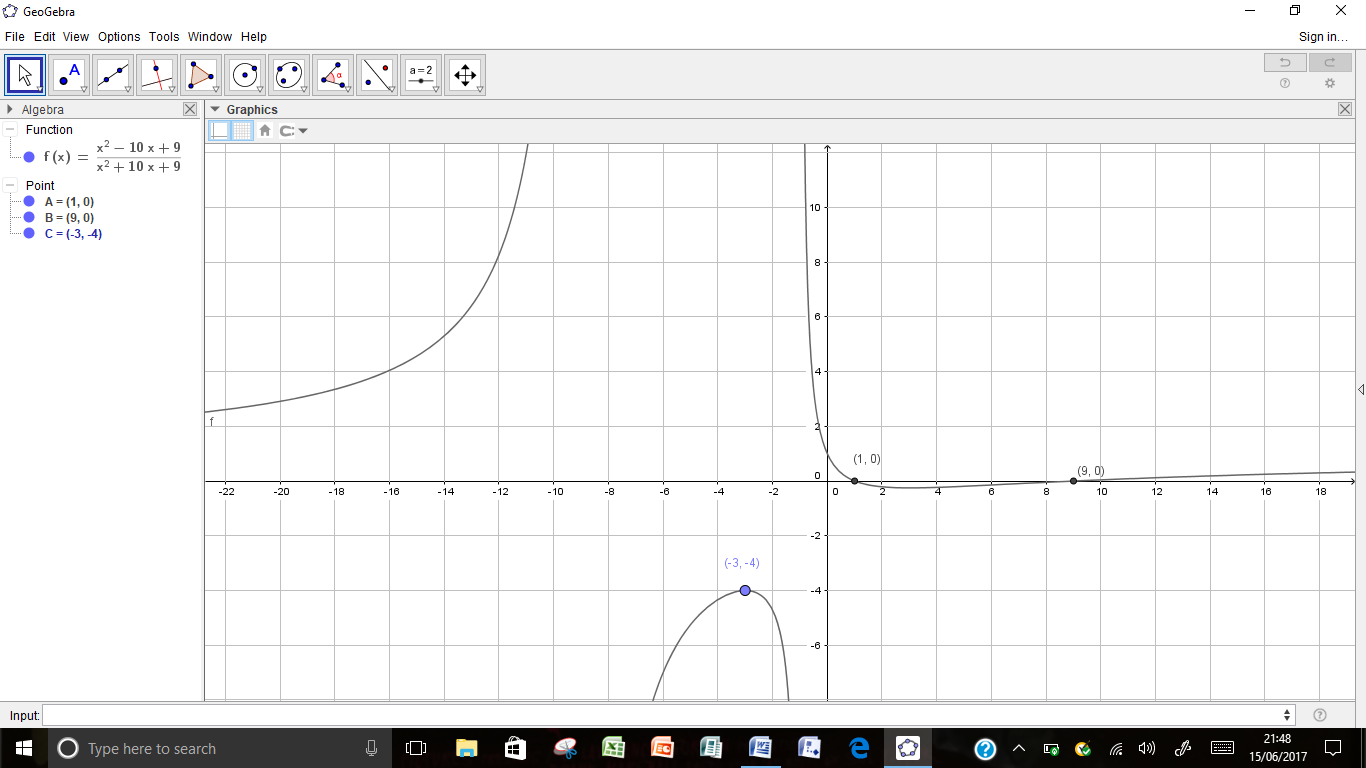
6.

|  |  |  |  |
| --- | --- | --- | --- |
| x | → | 0 | → |
| f’(x) | + | 0 | - |
| Shape |  |  |  |



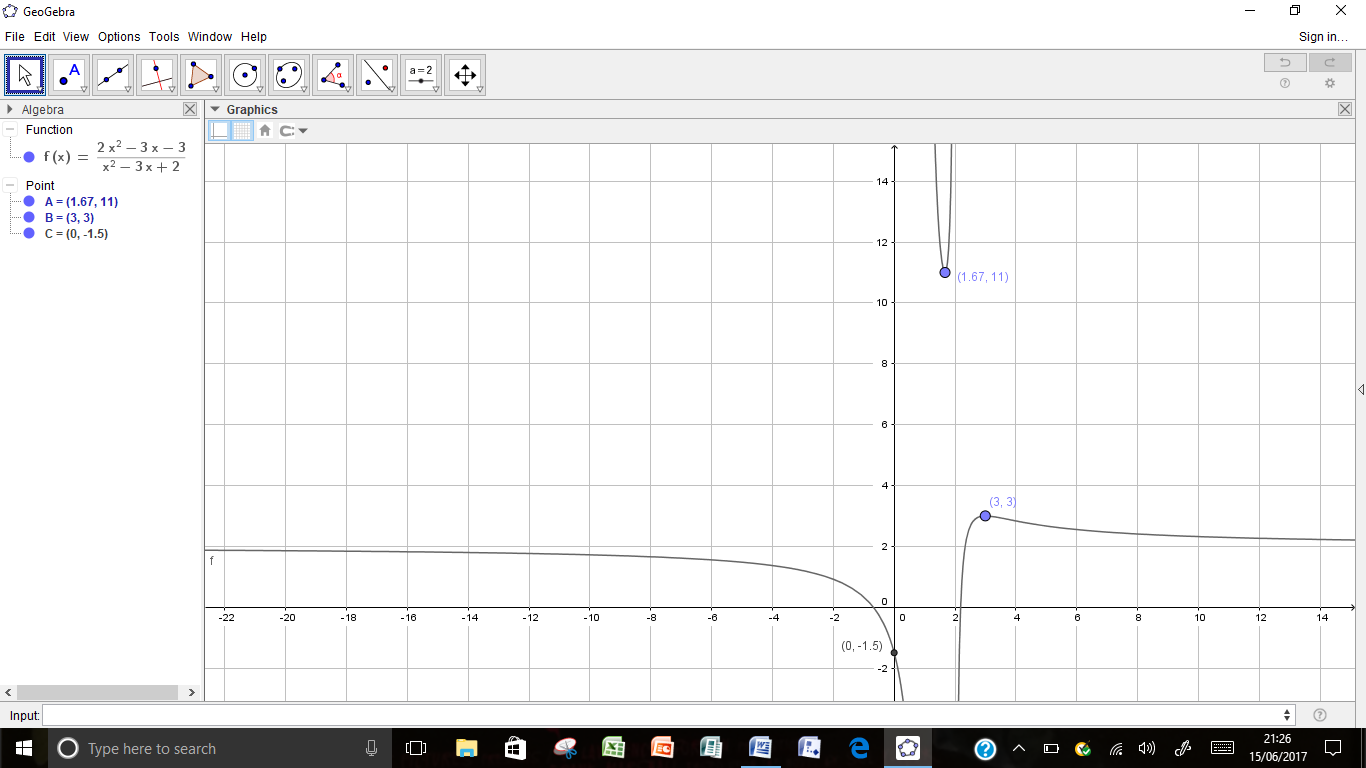
7.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| x | → | -3 | → | 3 | → |
| f’(x) | + | 0 | - | 0 | + |
| Shape |  |  |  |  |  |

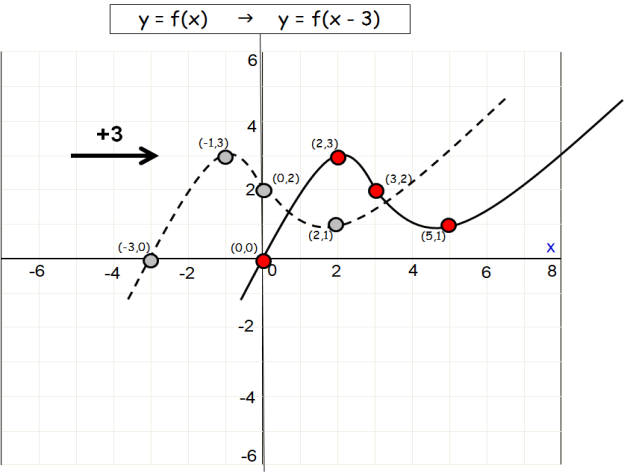


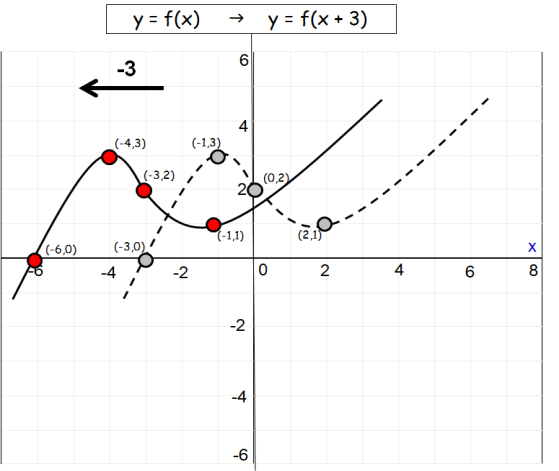
8.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| x | → |  | → | 3 | → |
| f’(x) | - | 0 | + | 0 | - |
| Shape |  |  |  |  |  |

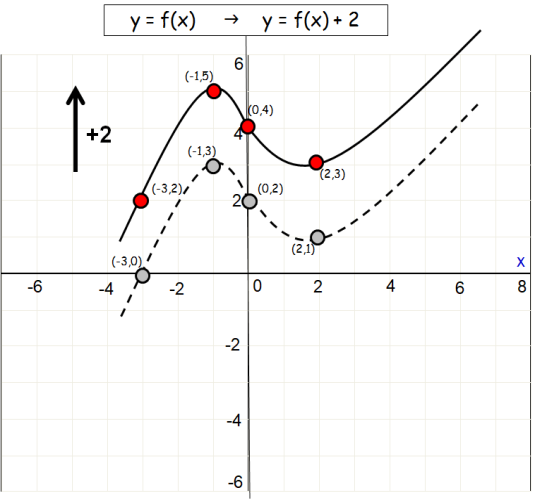


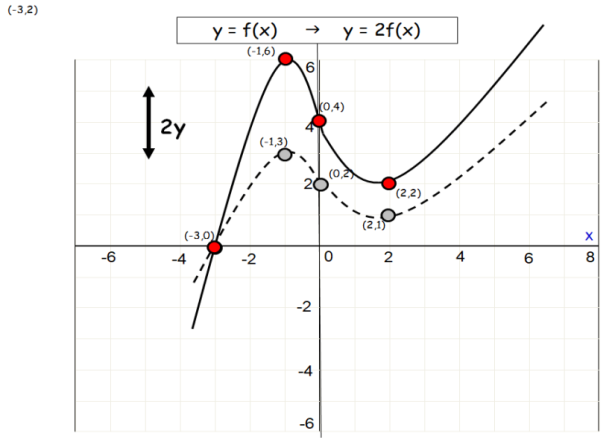
Ex 5 – Inverse, Odd and Even Functions

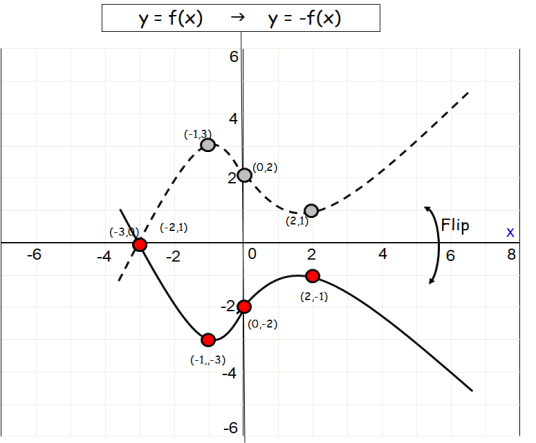
1. (a)



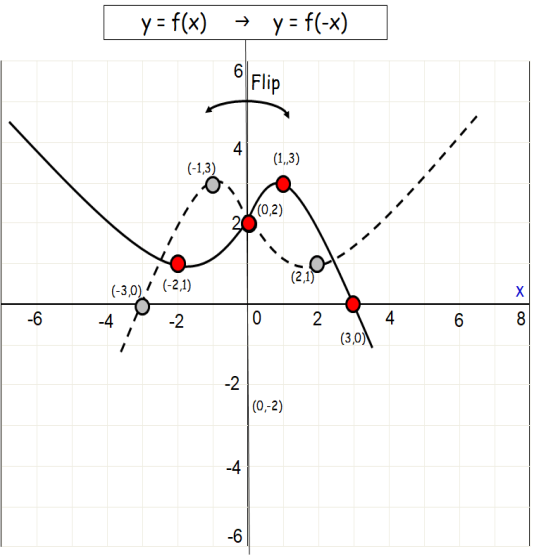
(b)

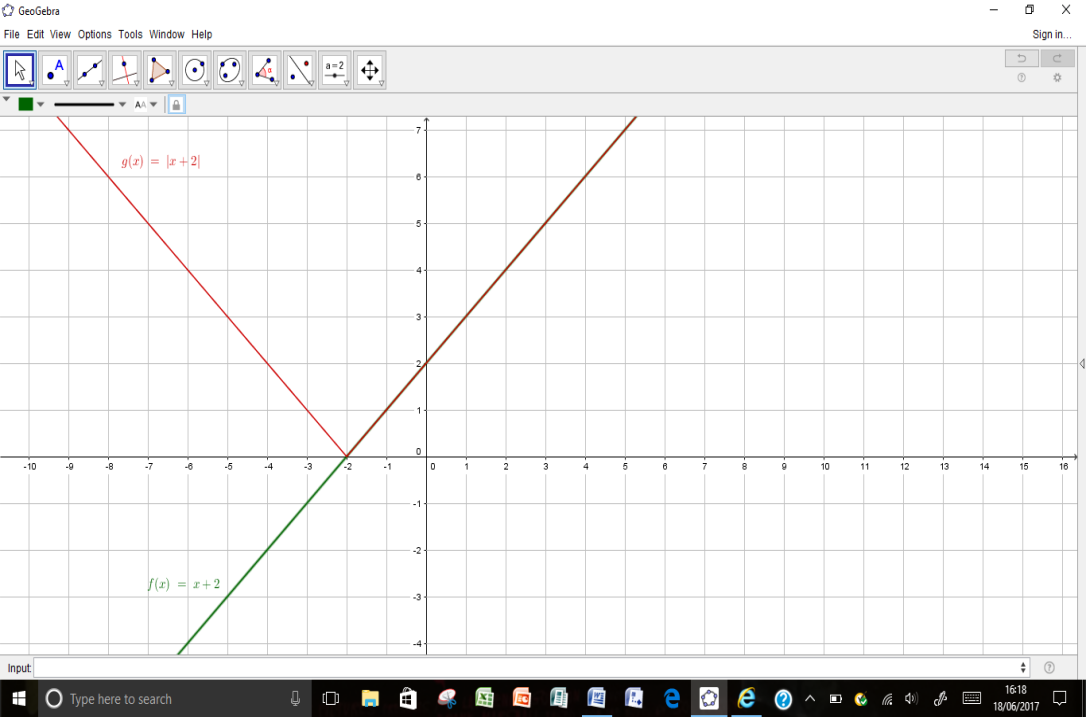
(c)

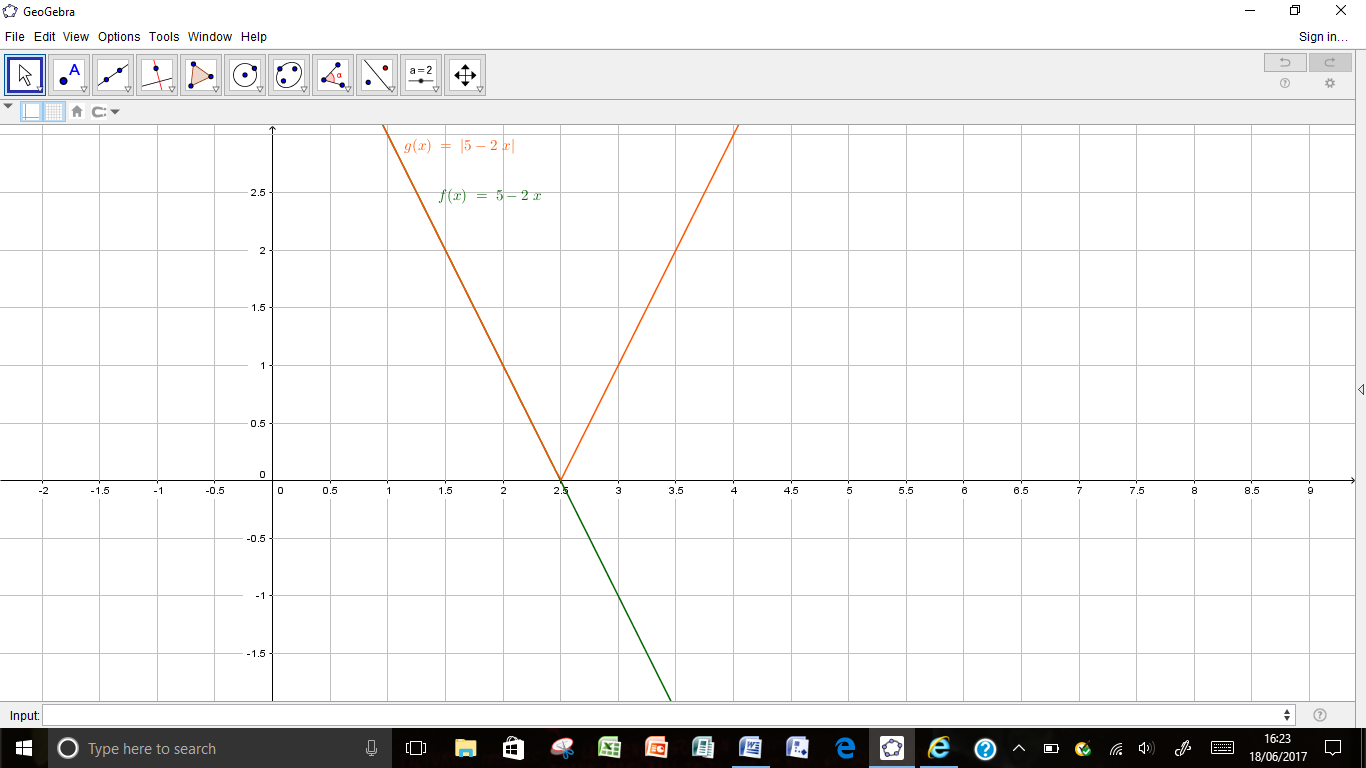
(d)



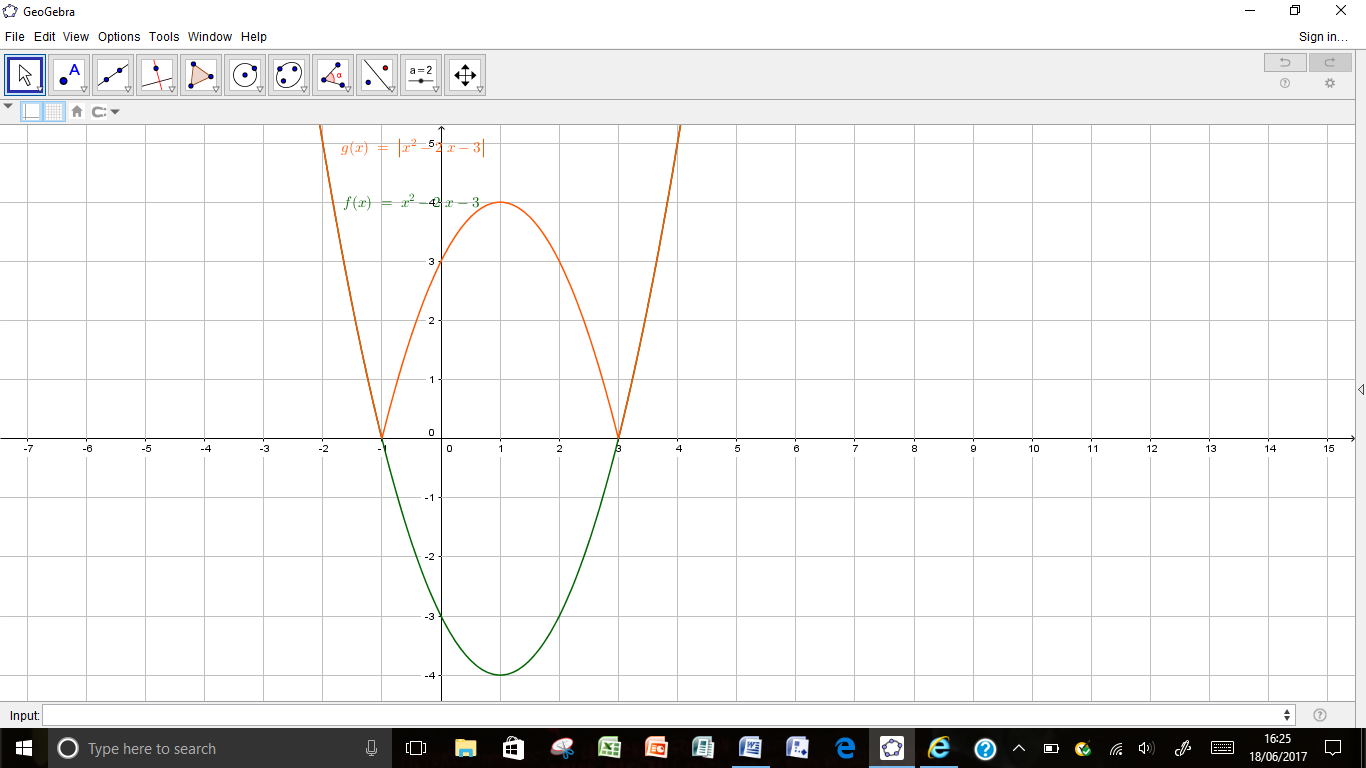
(e)

(f)

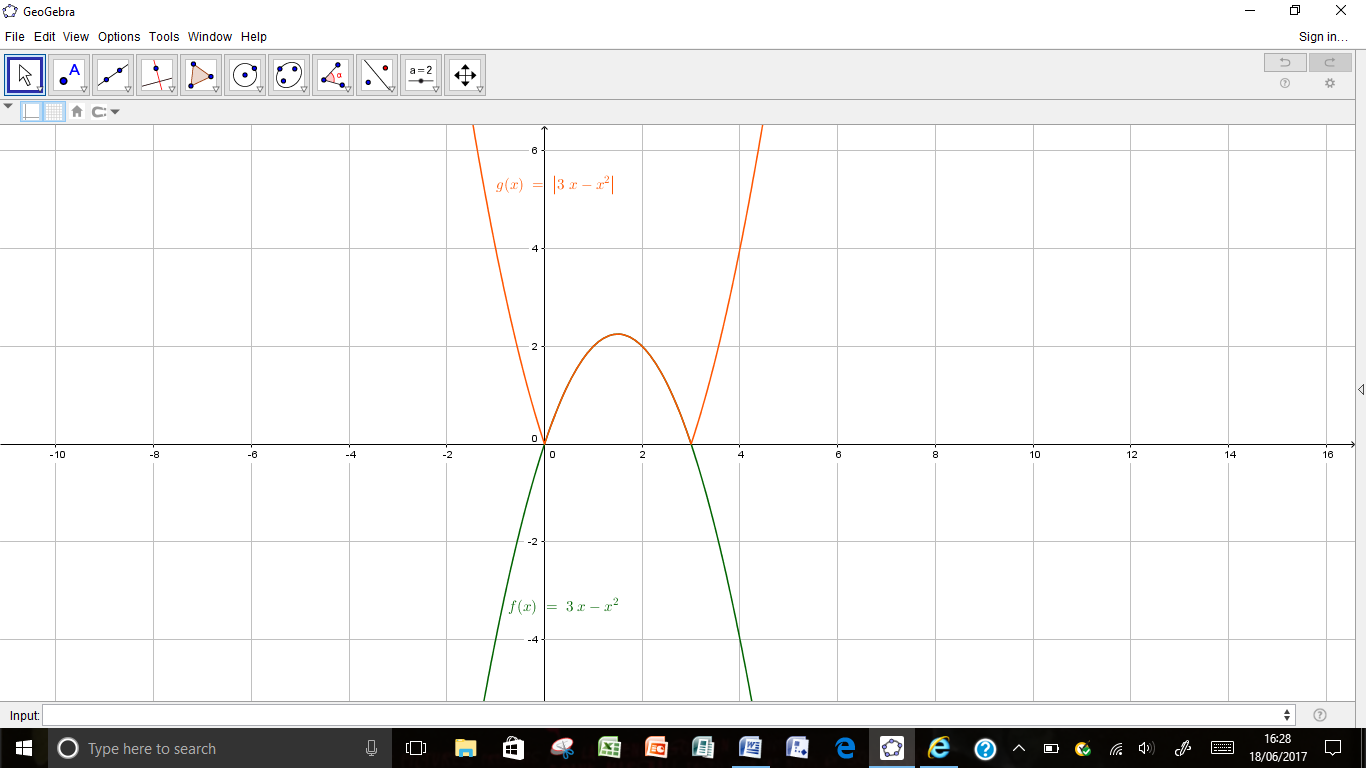
1. 

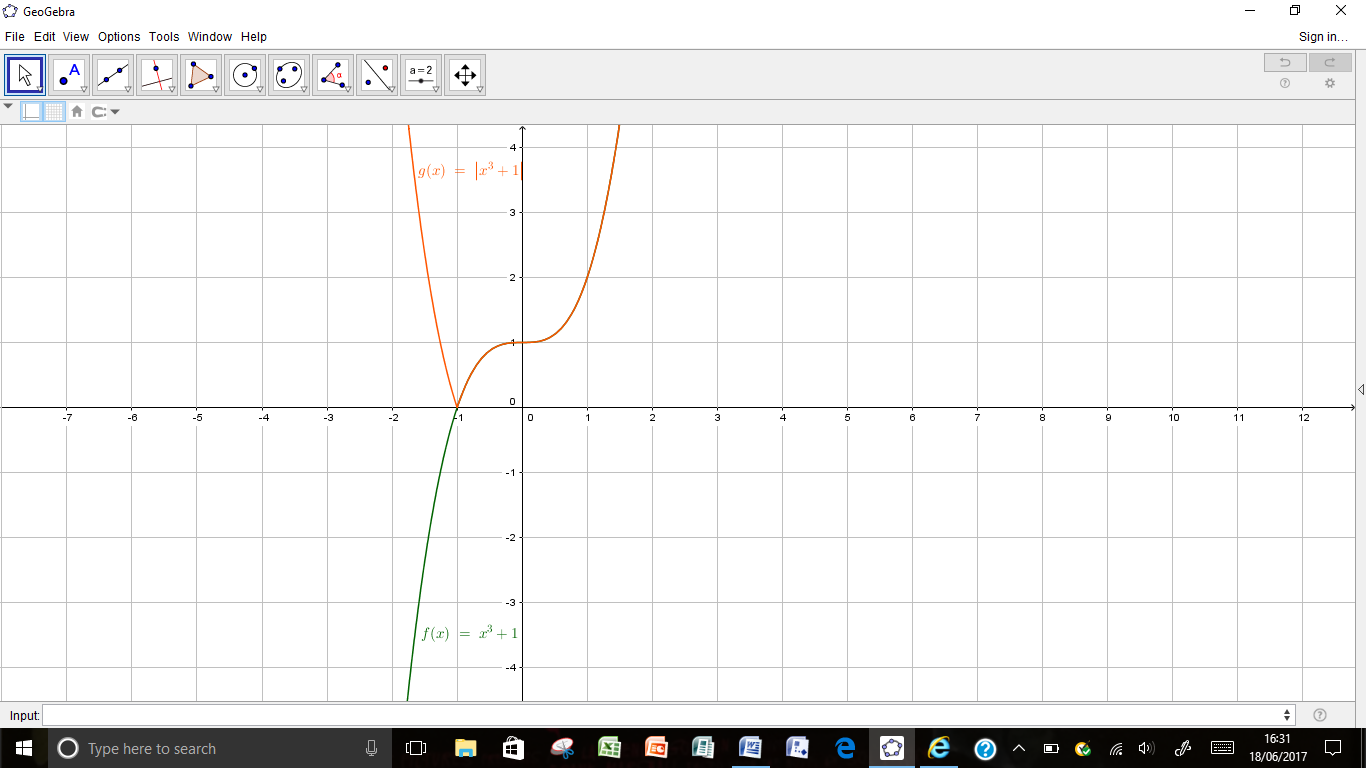


(b)

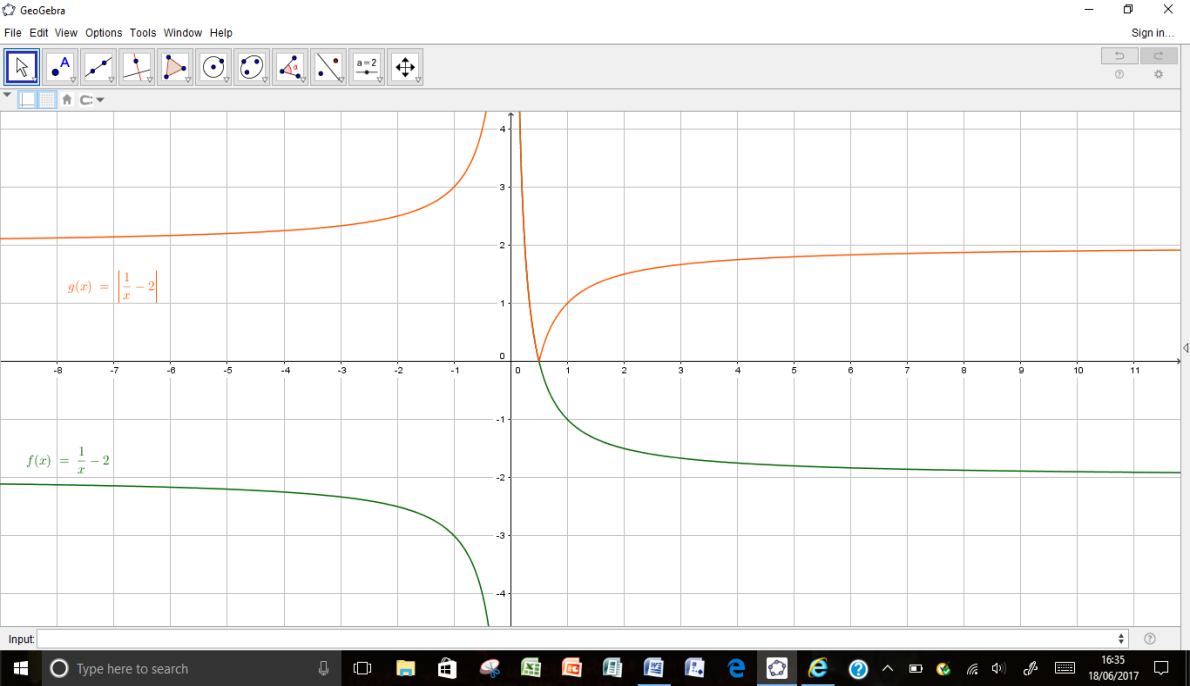


(c)

(d)



(e)



(f)