

← MAT2550, section ONL6FA_ONL6F, Summer 2 2021

Week 2 Math 2550 (Homework)

 INSTRUCTOR
Bradford Thompson
 South College

Current Score

QUESTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
POINTS	-/4	-/4	-/4	-/4	-/4	-/4	-/4	-/4	-/4	-/4	-/4	-/4	-/4	-/4	-/4	-/4	-/4	-/4	-/4




TOTAL SCORE

-/100 0.0%

Due Date

TUE, AUG 3, 2021
 11:59 PM EDT

 Request Extension

Description



Assignment Submission & Scoring

Assignment Submission

For this assignment, you submit answers by questions. You are required to use a new randomization after every 3 question submissions.

Assignment Scoring

Your best submission for each question part is used for your score.

1. [-/4 Points]

DETAILS

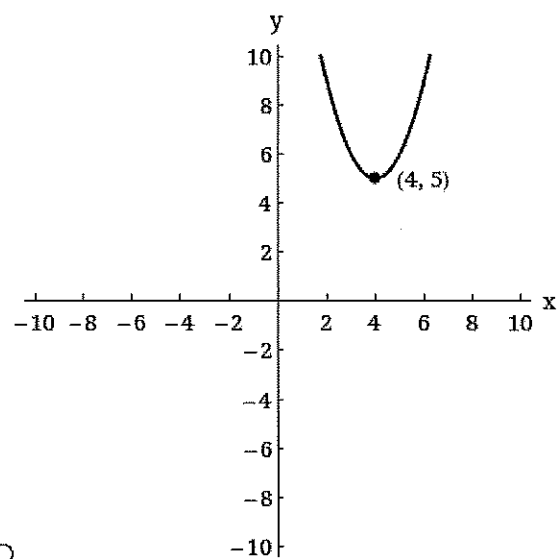
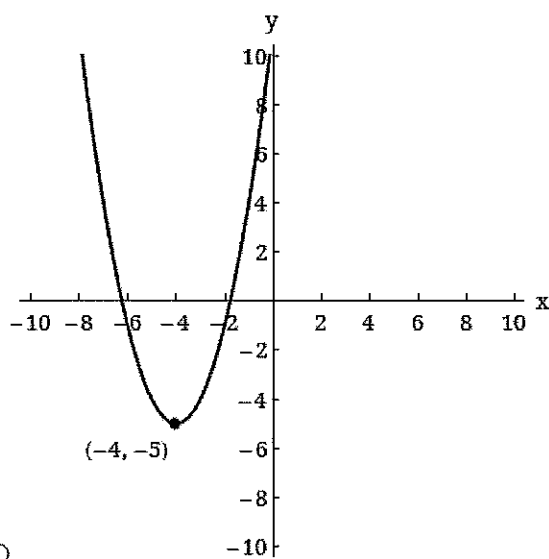
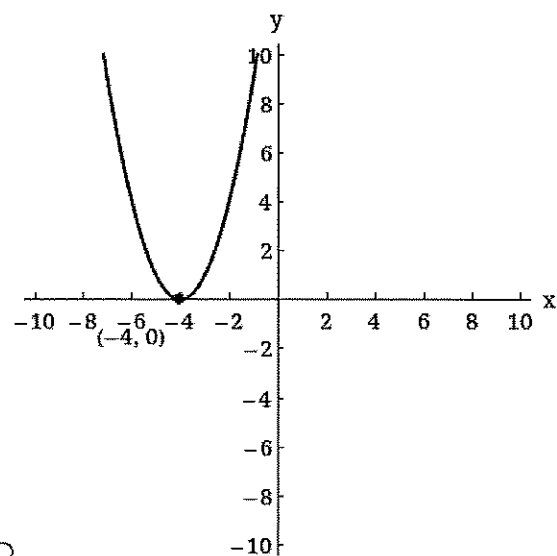
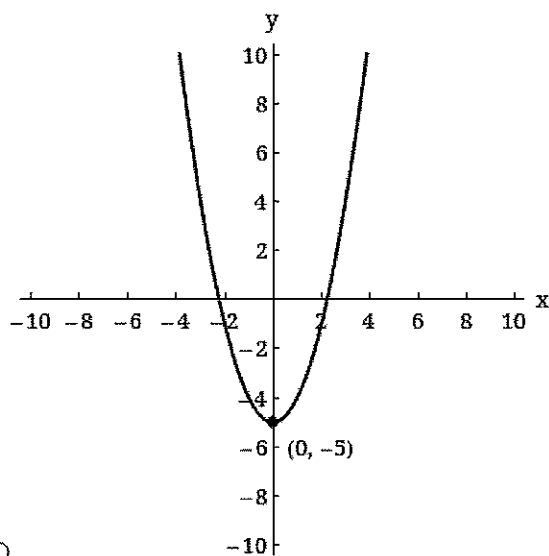
LARPCALC10 2.1.006. 0/15 Submissions Used

MY NOTES

ASK YOUR TEACHER

Match the quadratic function with its graph.

$$f(x) = (x + 4)^2 - 5$$



Need Help?

Read It

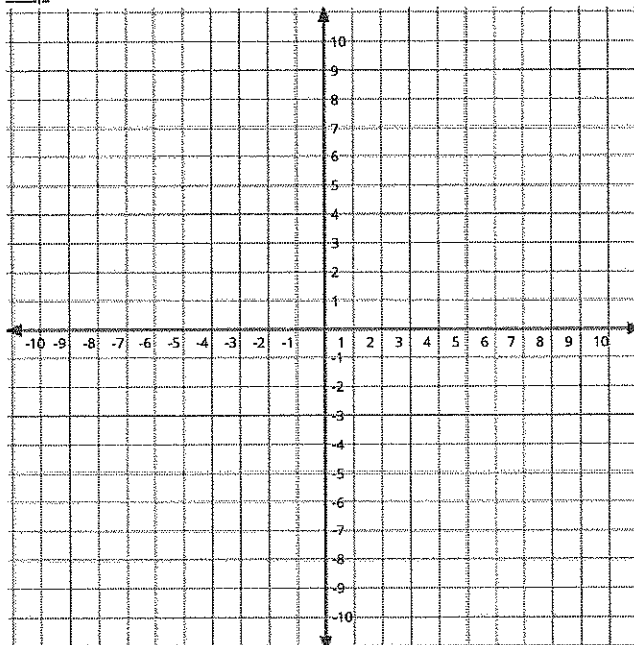
Sketch the graph of each quadratic function and compare it with the graph of $y = x^2$.

(a) $f(x) = \frac{1}{5}x^2$

- ☐ Selection Tool
- ☐ Line
- ☐ Ray
- ☐ Segment
- ☐ Circle
- ☐ Vertical Parabola
- ☐ Horizontal Parabola
- ☐ Point

[No Solution](#)

[Help](#)



[Clear Graph](#)

[Delete Layer](#)

[Fill](#)

WebAssign Graphing Tool

Graph Layers [Toggle Open/Closed](#)

- After you add an object to the graph you can use Graph Layers to view and edit its properties.

There is a [---Select---](#)

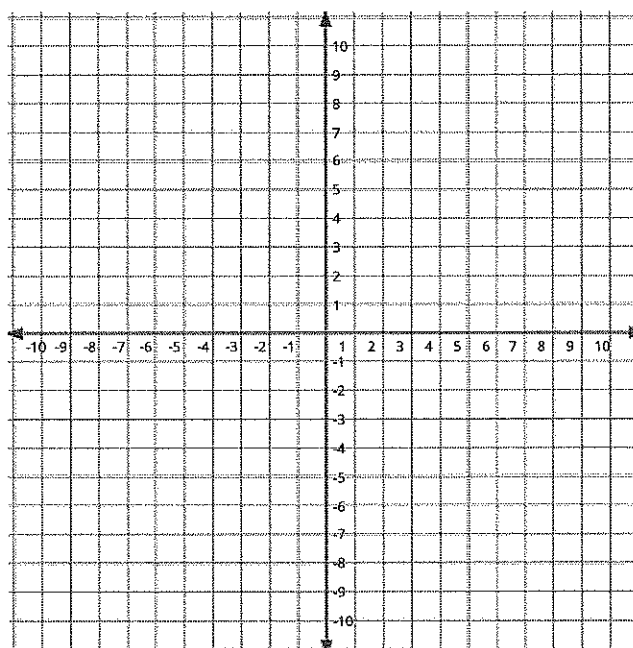
▼ from the graph of $y = x^2$.

(b) $g(x) = -\frac{1}{9}x^2$

- ☐ Selection Tool
- ☐ Line
- ☐ Ray
- ☐ Segment
- ☐ Circle
- ☐ Vertical Parabola
- ☐ Horizontal Parabola
- ☐ Point

[No Solution](#)

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WebAssign Graphing Tool

Graph Layers [Toggle Open/Closed](#)

- After you add an object to the graph you can use Graph Layers to view and edit its properties.

There is a --Select-- ▼ from the graph of $y = x^2$.

(c) $h(x) = \frac{3}{2}x^2$

☐ Selection Tool

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☐ Ray

☐ Segment

☐ Circle

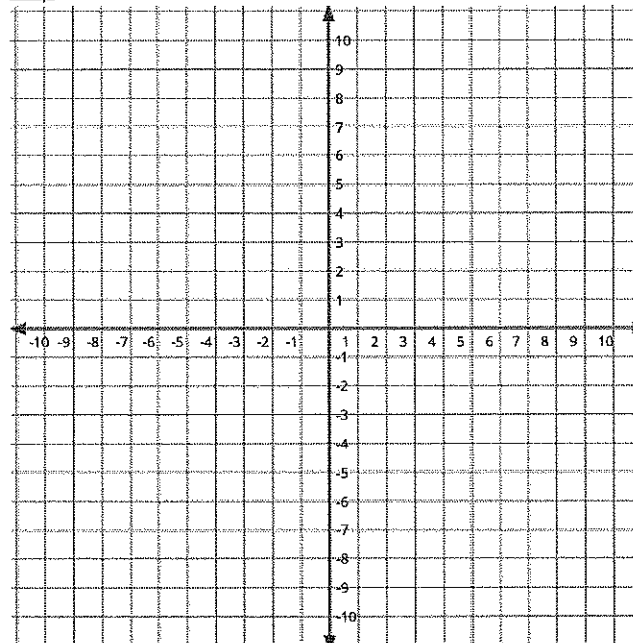
☐ Vertical Parabola

☐ Horizontal Parabola

☐ Point

[No Solution](#)

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WebAssign Graphing Tool

Graph LayersToggle Open/Closed

- After you add an object to the graph you can use Graph Layers to view and edit its properties.

There is a --Select-- ▼ from the graph of $y = x^2$.

(d) $k(x) = -5x^2$

☐ Selection Tool

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☐ Segment

☐ Circle

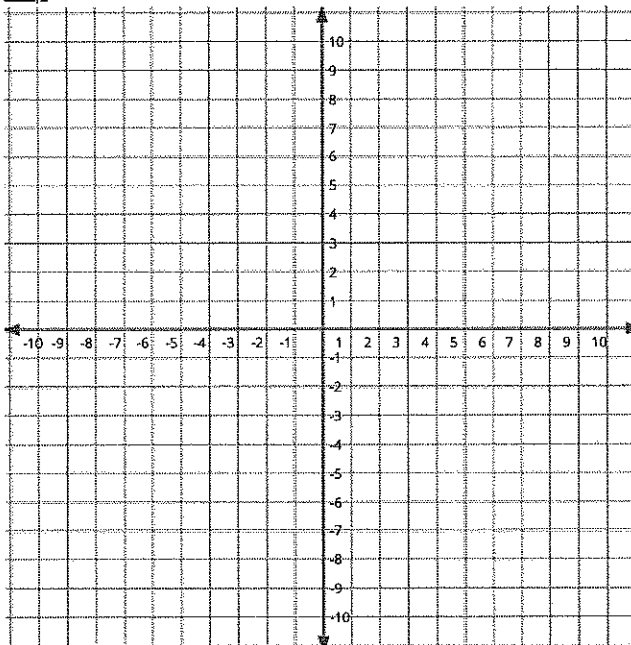
☐ Vertical Parabola

☐ Horizontal Parabola

☐ Point

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WebAssign Graphing Tool

Graph LayersToggle Open/Closed

- After you add an object to the graph you can use Graph Layers to view and edit its properties.

There is a --Select-- ▼ from the graph of $y = x^2$.

Need Help?

[Read It](#)

Sketch the graph of each quadratic function and compare it with the graph of $y = x^2$.

(a) $f(x) = (x - 3)^2$

☐ Selection Tool

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☐ Ray

☐ Segment

☐ Circle

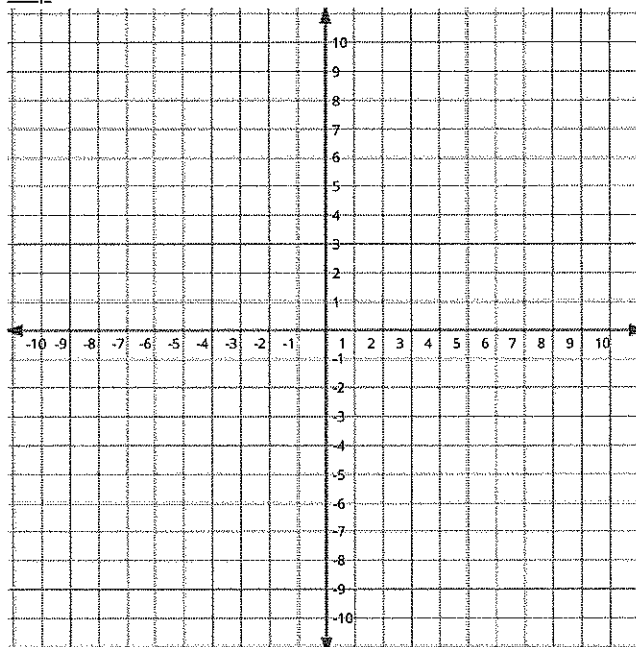
☐ Vertical Parabola

☐ Horizontal Parabola

☐ Point

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WebAssign Graphing Tool

Graph Layers [Toggle Open/Closed](#)

- After you add an object to the graph you can use Graph Layers to view and edit its properties.

There is a of unit(s) from the graph of $y = x^2$.

(b) $g(x) = (2x)^2 + 1$

☐ Selection Tool

☐ Line

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☐ Segment

☐ Circle

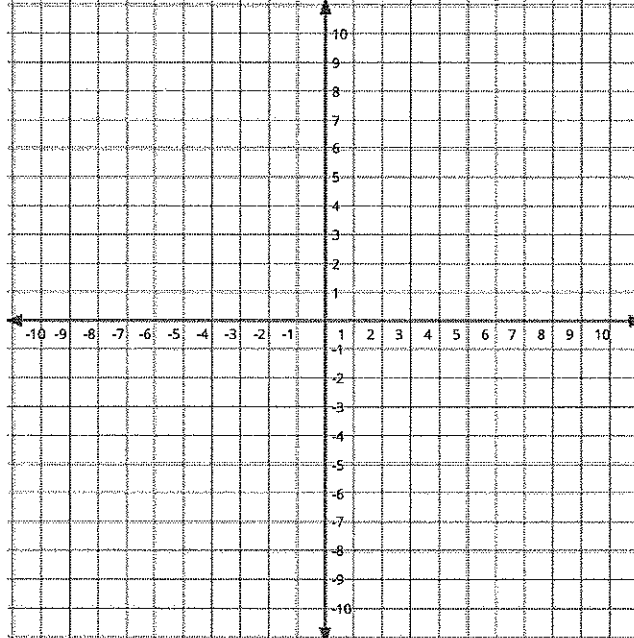
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[No Solution](#)

[Help](#)



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WebAssign Graphing Tool

Graph Layers [Toggle Open/Closed](#)

- After you add an object to the graph you can use Graph Layers to view and edit its properties.

There is a ---Select--- of unit(s) ---Select--- from the graph of $y = x^2$.

(c) $h(x) = \left(\frac{1}{5}x\right)^2 - 3$

☐ Selection Tool

☐ Line

☐ Ray

☐ Segment

☐ Circle

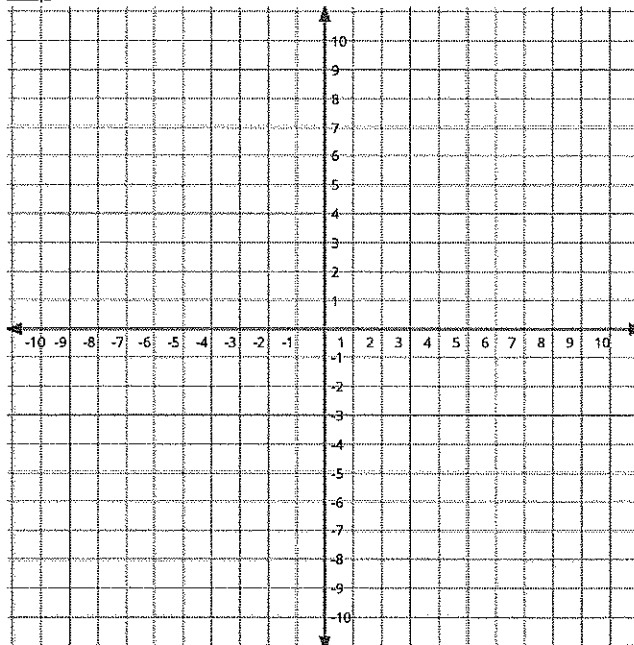
☐ Vertical Parabola

☐ Horizontal Parabola

☐ Point

[No Solution](#)

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WebAssign Graphing Tool

Graph LayersToggle Open/Closed

- After you add an object to the graph you can use Graph Layers to view and edit its properties.

There is a of unit(s) from the graph of $y = x^2$.

(d) $k(x) = (x + 4)^2$

☐ Selection Tool

☐ Line

☐ Ray

☐ Segment

☐ Circle

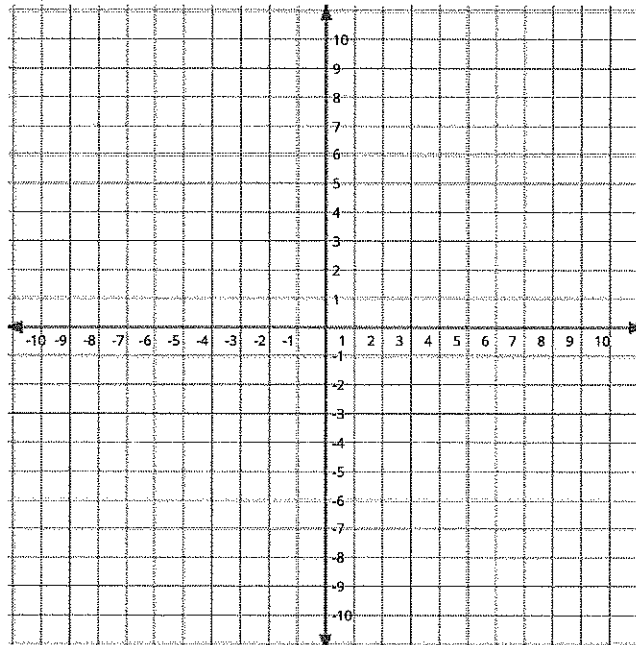
☐ Vertical Parabola

☐ Horizontal Parabola

☐ Point

[No Solution](#)

[Help](#)



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WebAssign Graphing Tool

Graph LayersToggle Open/Closed

- After you add an object to the graph you can use Graph Layers to view and edit its properties.

There is a of unit(s) from the graph of $y = x^2$.

Need Help?

[Read it](#)

4. [-/4 Points]

DETAILS

LARPCALC10 2.1.013. 0/15 Submissions Used

MY NOTES

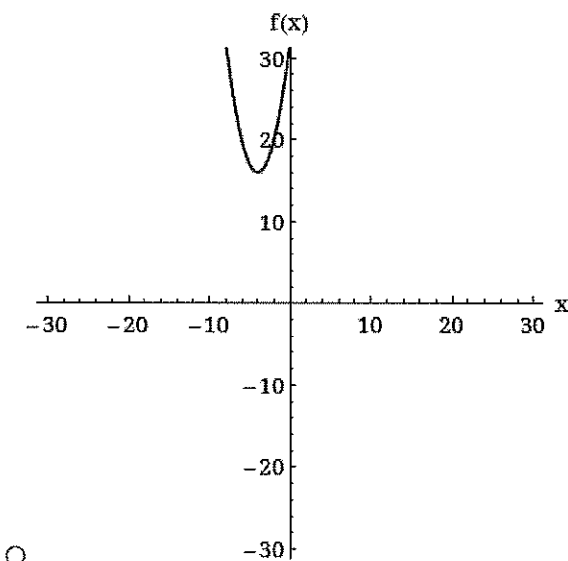
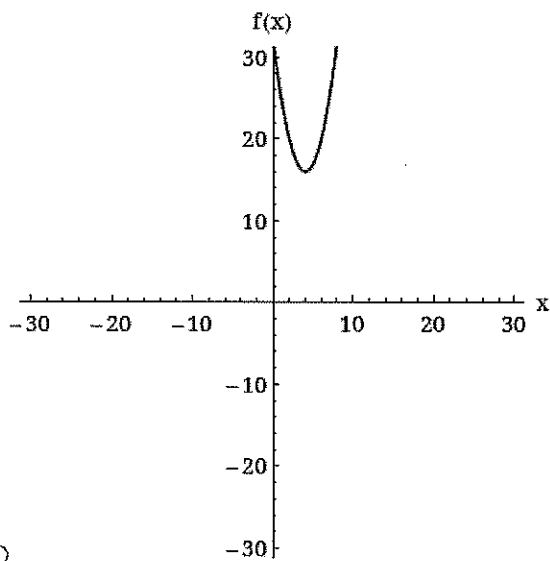
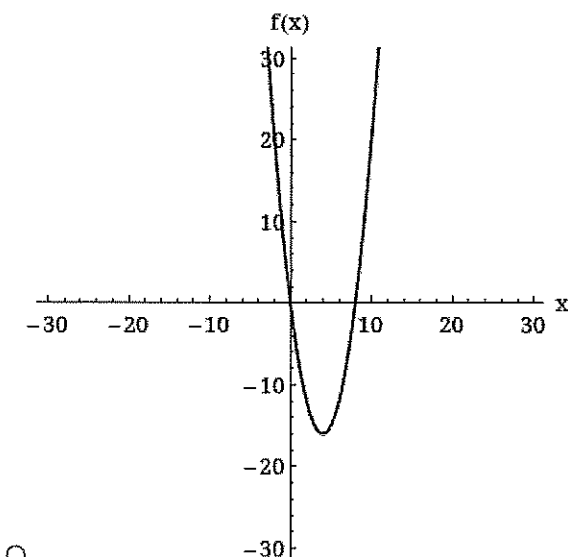
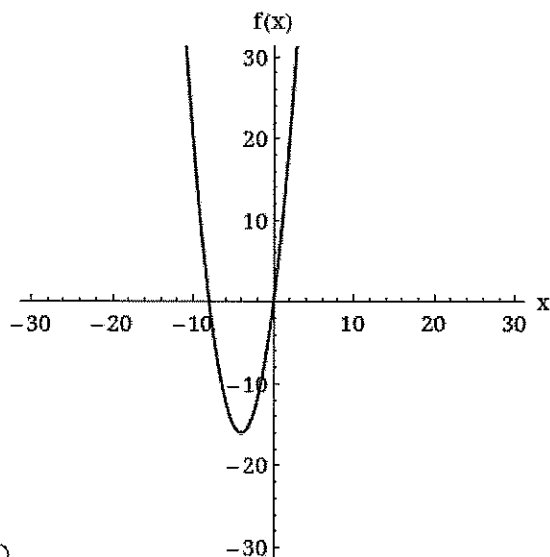
ASK YOUR TEACHER

Write the quadratic function in standard form.

$$f(x) = x^2 - 8x$$

 $f(x) =$

Sketch its graph.



Identify the vertex, axis of symmetry, and x-intercept(s). (If an answer does not exist, enter DNE.)

vertex

 $(x, f(x)) = ($

 $)$

axis of symmetry

x-intercept

$(x, f(x)) = ($

)

(smaller x-value)

x-intercept

$(x, f(x)) = ($

)

(larger x-value)

Need Help?

[Read It](#)

5. [-/4 Points]

DETAILS

LARPCALC10 2.1.015. 0/15 Submissions Used

MY NOTES

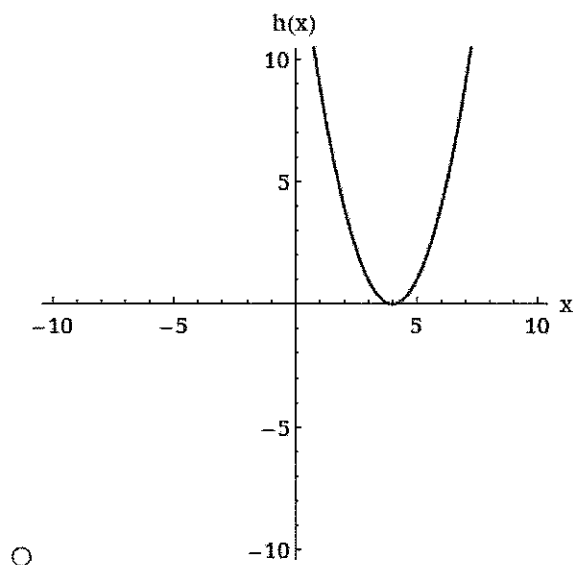
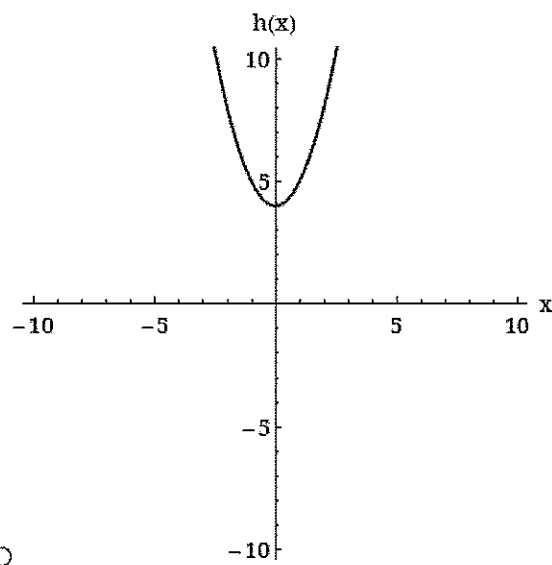
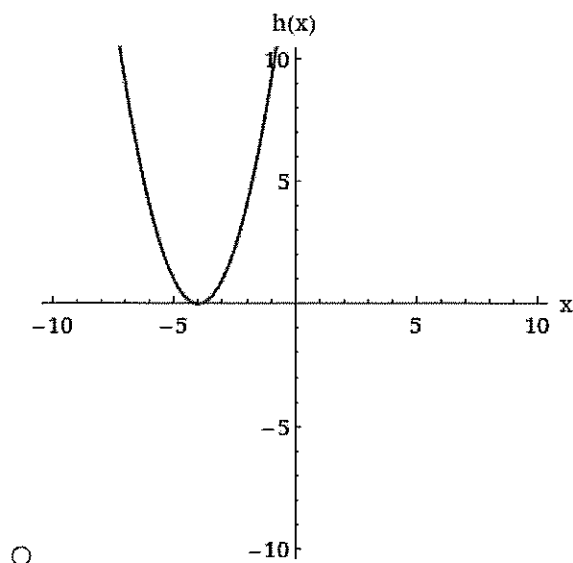
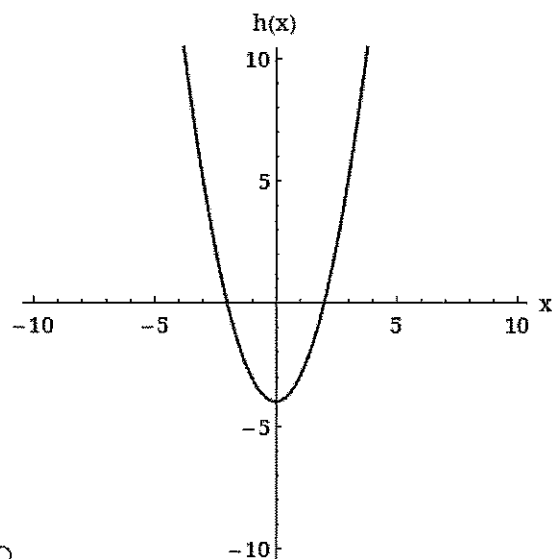
ASK YOUR TEACHER

Write the quadratic function in standard form.

$$h(x) = x^2 - 8x + 16$$

 $h(x) =$

Sketch its graph.



Identify the vertex, axis of symmetry, and x-intercept(s). (If an answer does not exist, enter DNE.)

vertex

 $(x, h(x)) = ($
 $)$

axis of symmetry

x-intercept

$(x, h(x)) = ($

)

Need Help?

Read It

6. [-/4 Points]

DETAILS

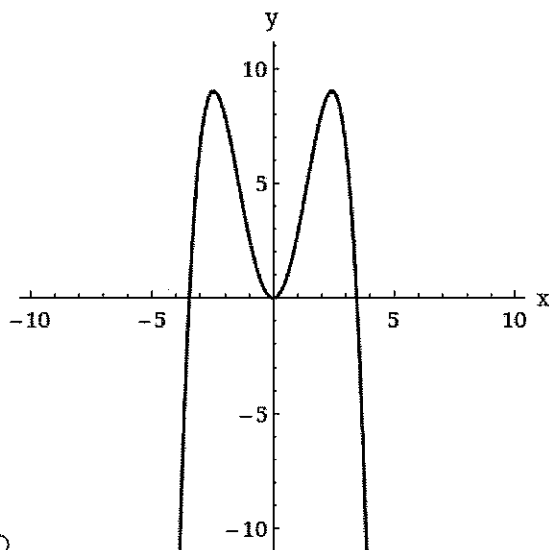
LARPCALC10 2.2.009. 0/15 Submissions Used

MY NOTES

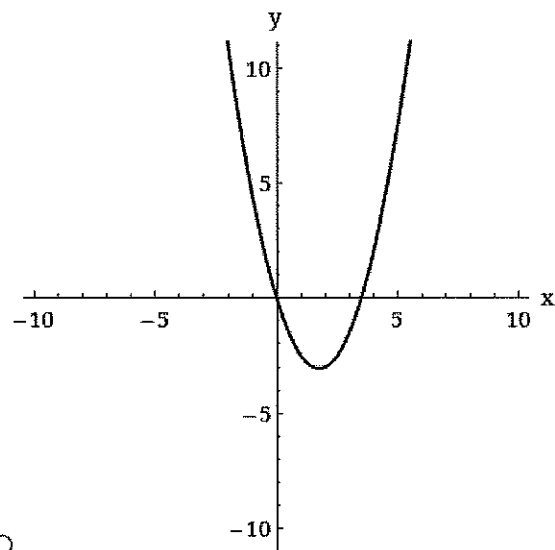
ASK YOUR TEACHER

Match the polynomial function with its graph.

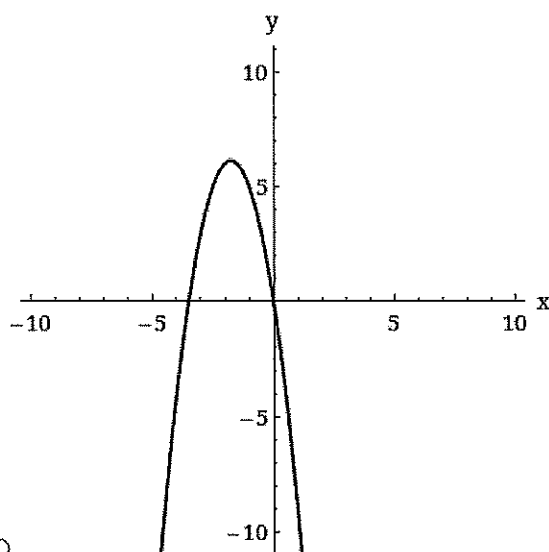
$$f(x) = -2x^2 - 7x$$



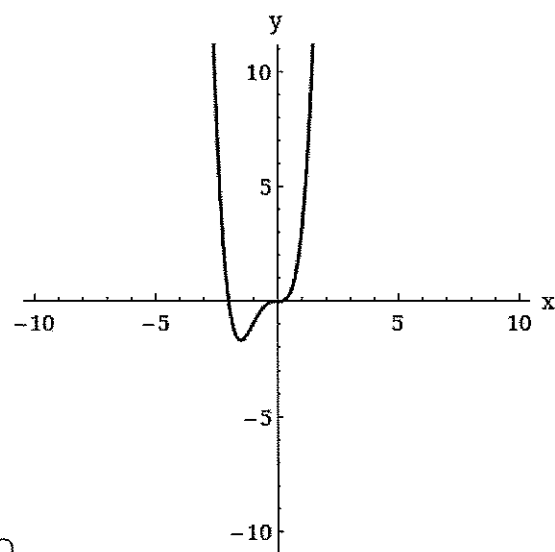
☐



☐



☐



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Need Help?

Read It

7. [-/4 Points]

DETAILS

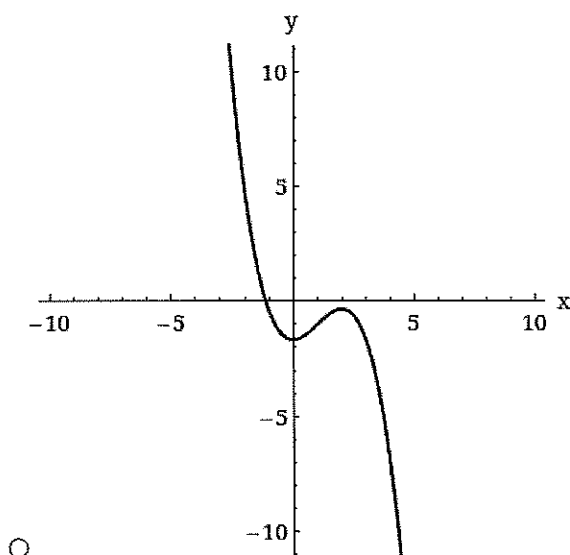
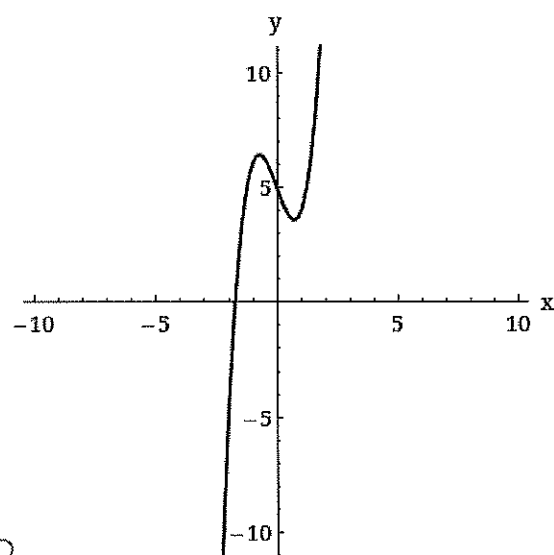
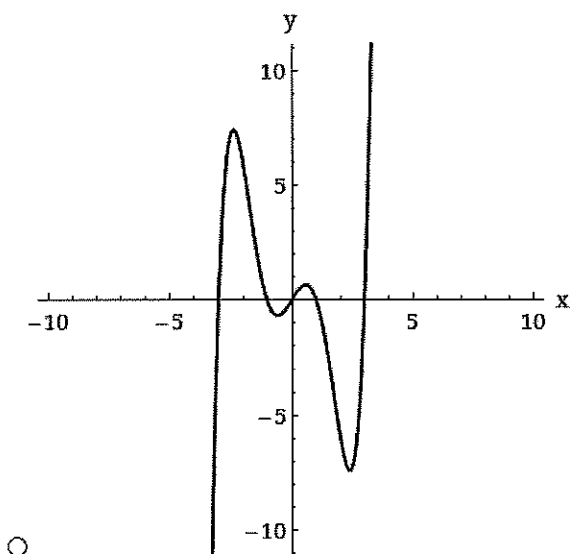
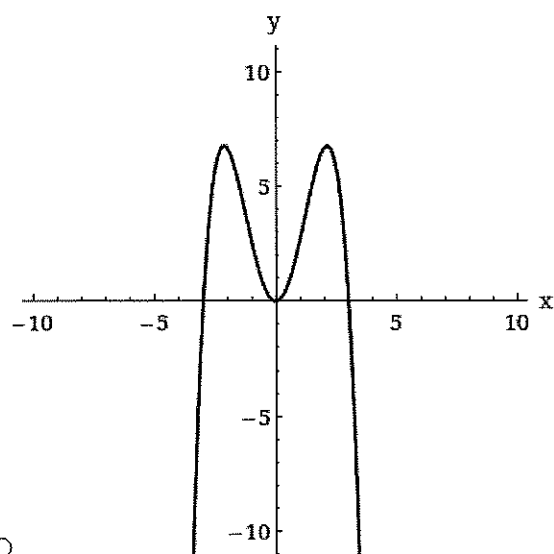
LARPCALC10 2.2.012. 0/15 Submissions Used

MY NOTES

ASK YOUR TEACHER

Match the polynomial function with its graph.

$$f(x) = -\frac{1}{3}x^3 + x^2 - \frac{5}{3}$$



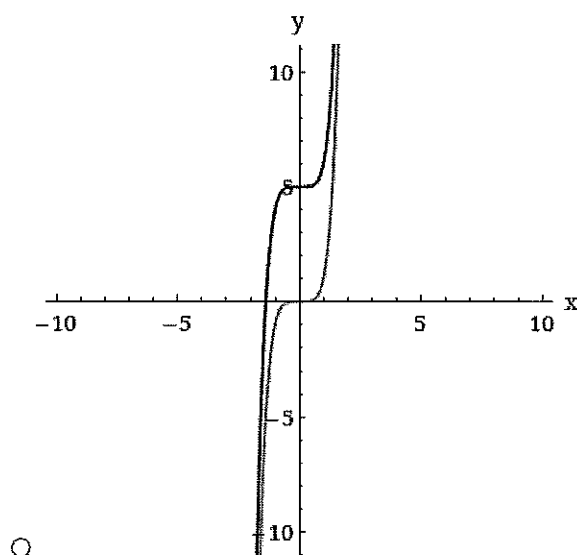
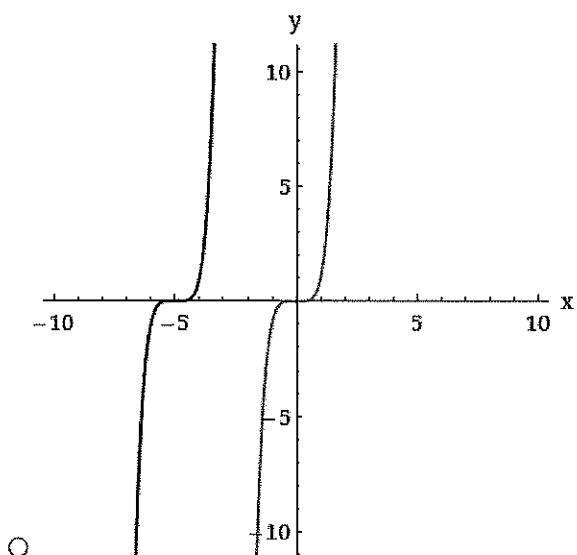
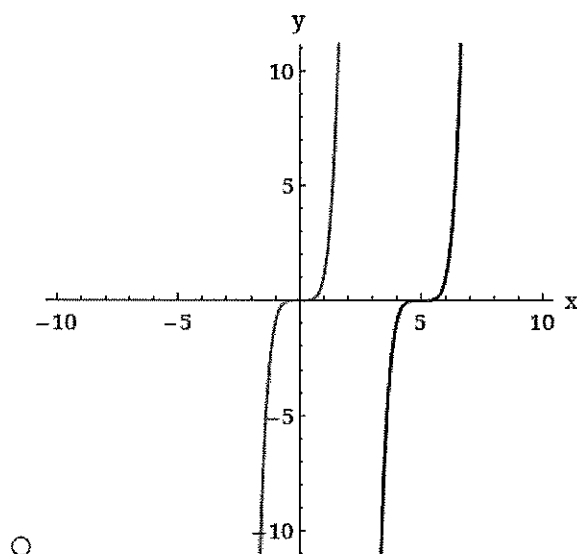
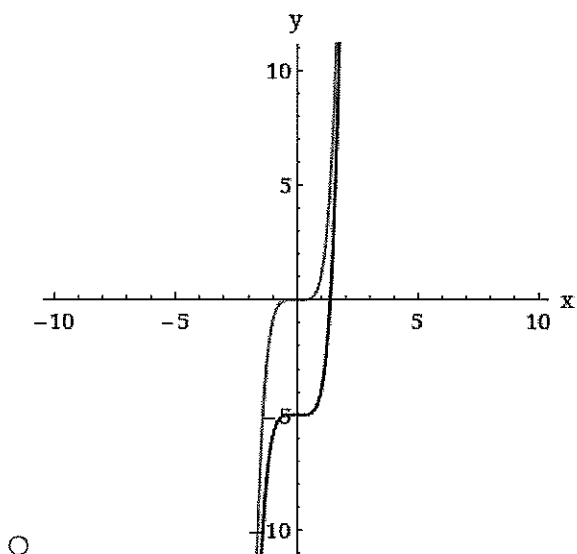
Need Help?

Read It

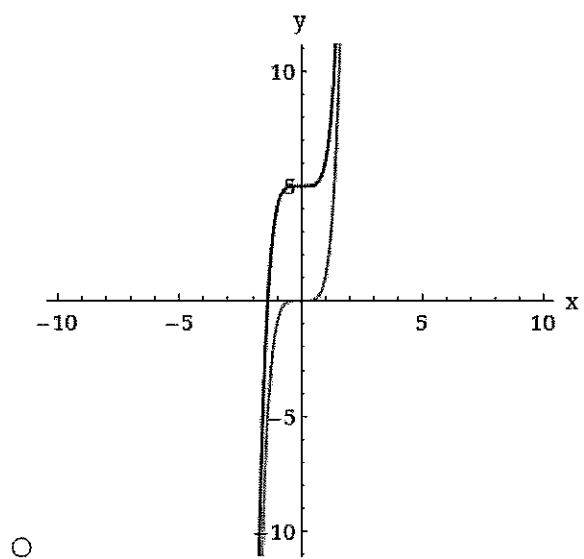
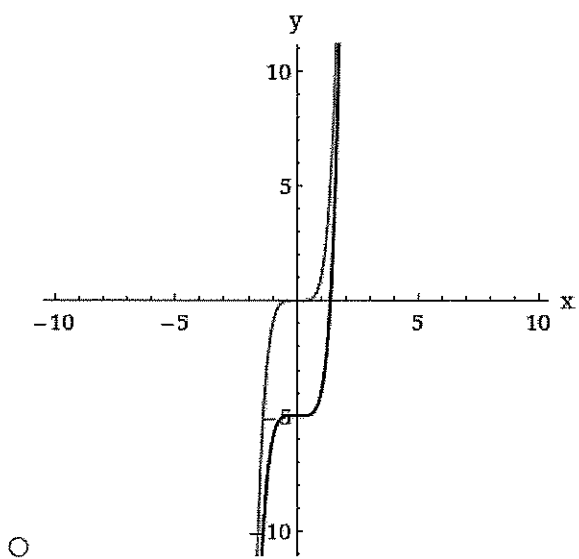
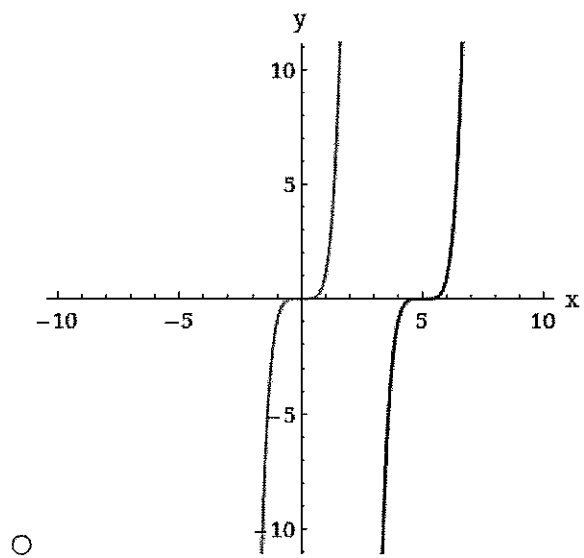
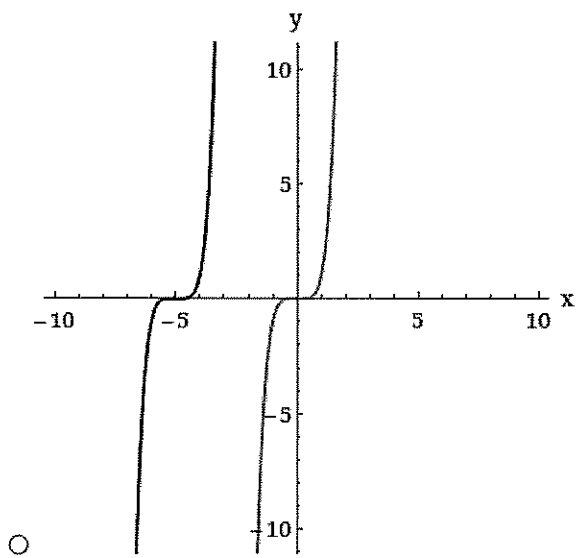
Sketch the graph of $y = x^5$ and each transformation.

$$y = x^5$$

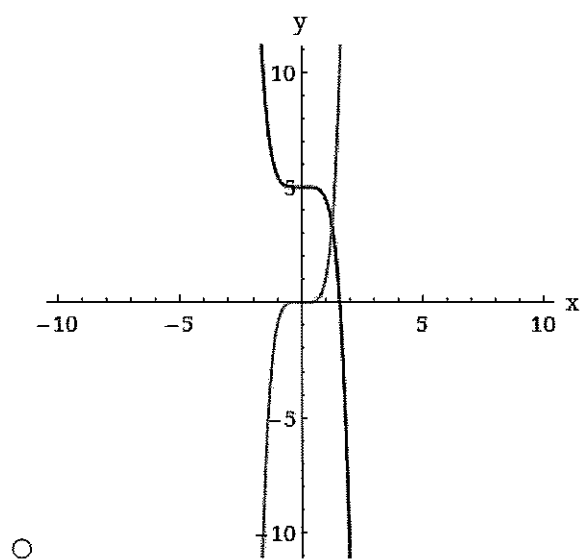
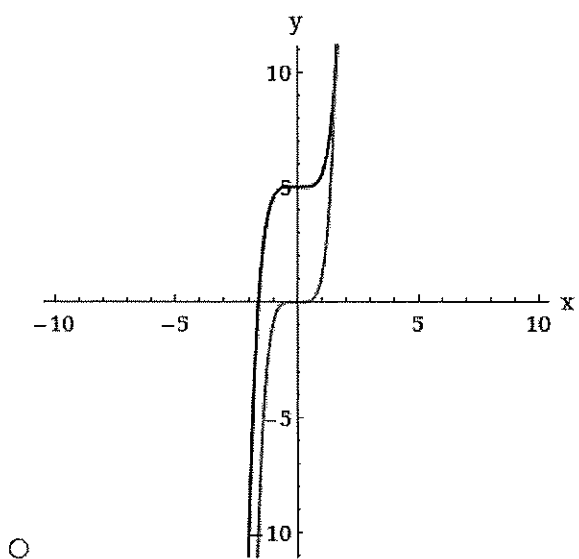
(a) $f(x) = (x + 5)^5$

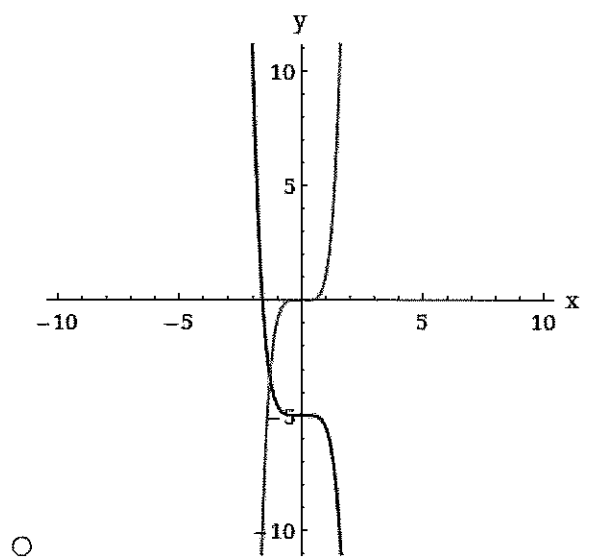
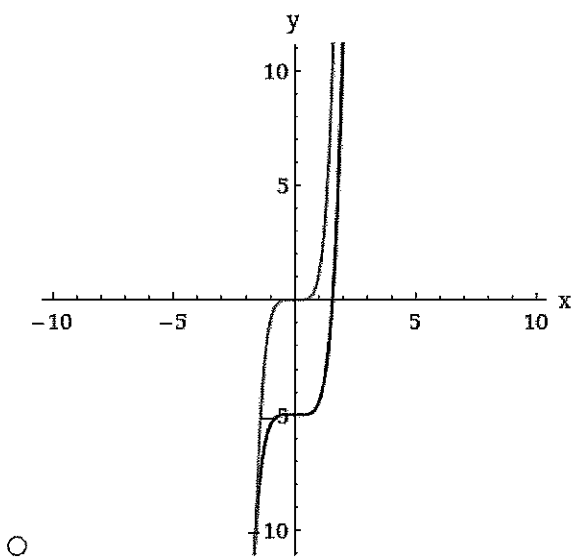


(b) $f(x) = x^5 + 5$

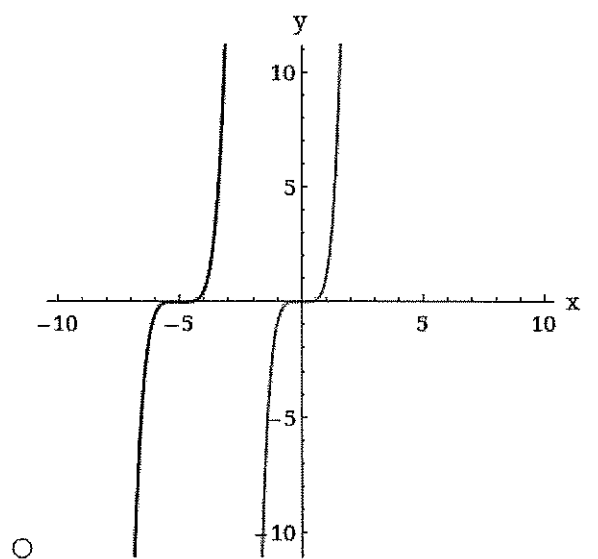
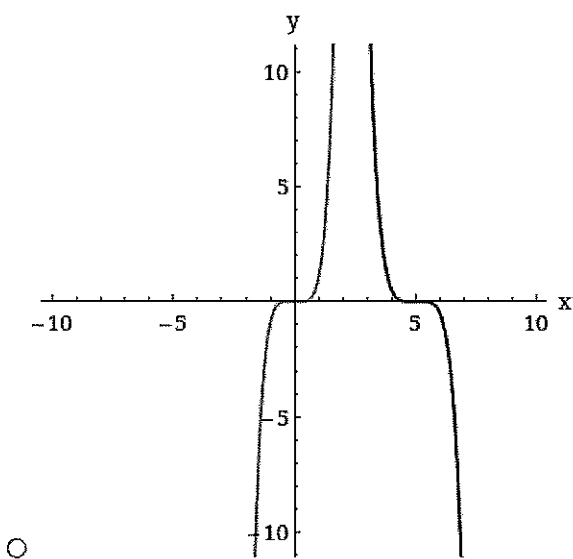
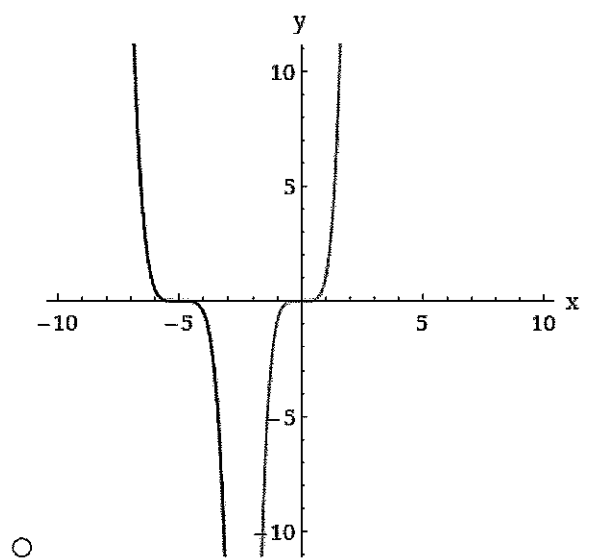
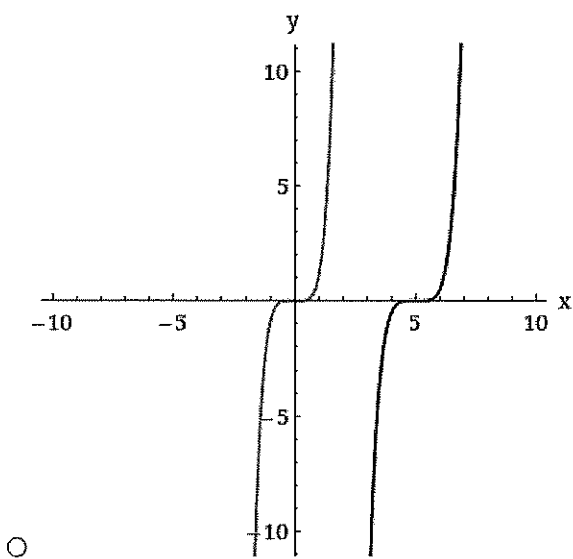


(c) $f(x) = 5 - \frac{1}{2}x^5$





(d) $f(x) = -\frac{1}{2}(x+5)^5$



9. [-/4 Points]

DETAILS

LARPCALC10 2.2.017. 0/15 Submissions Used

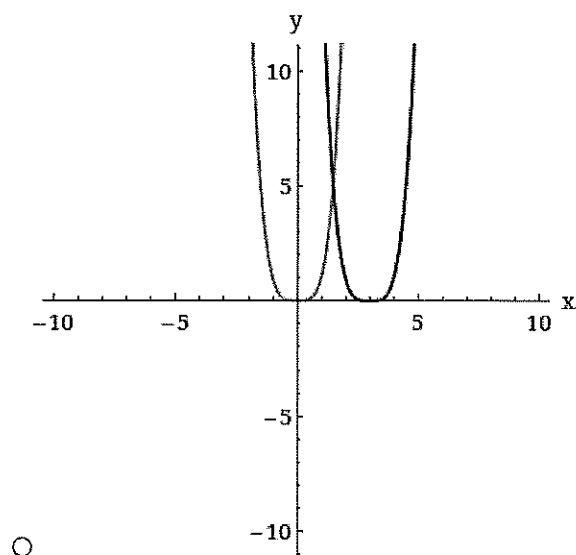
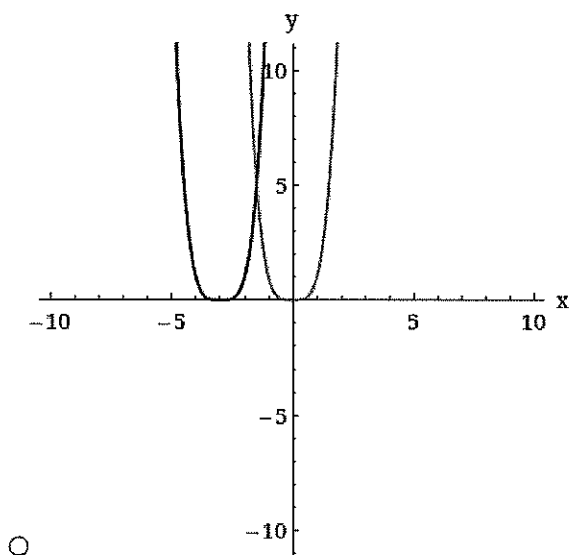
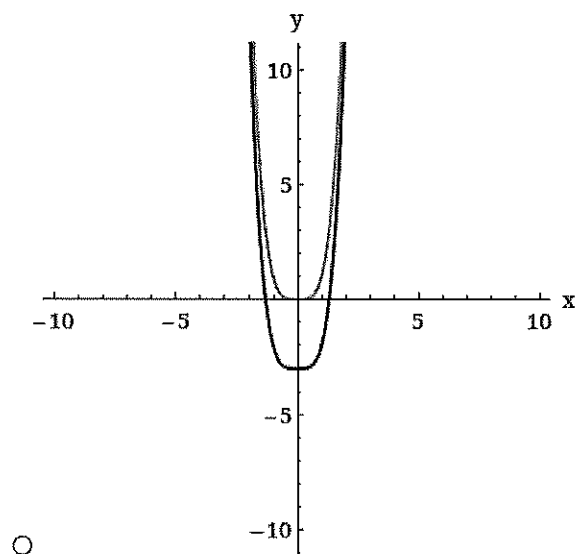
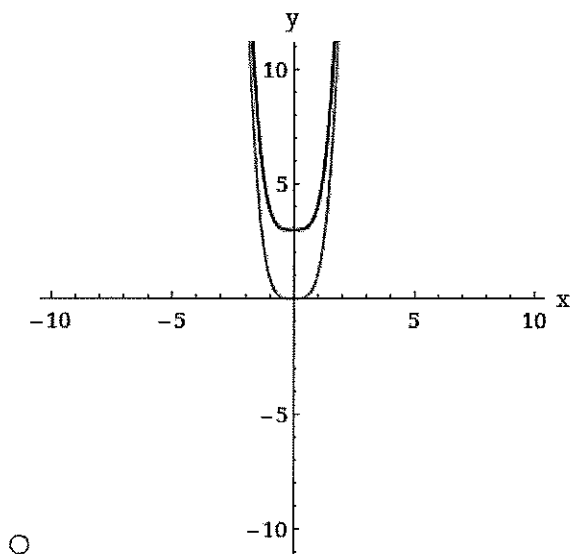
MY NOTES

ASK YOUR TEACHER

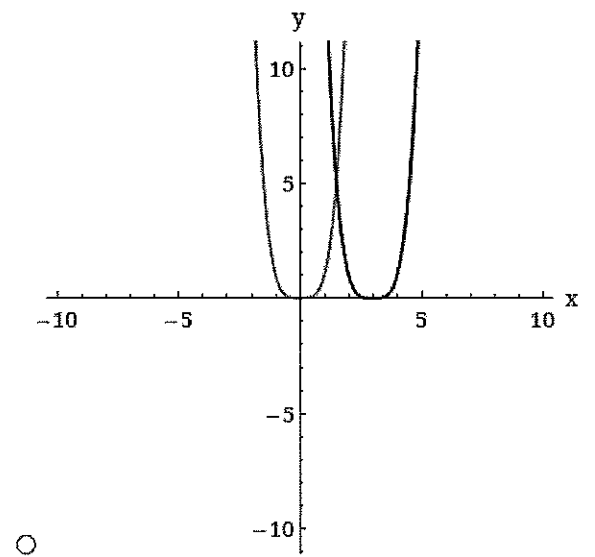
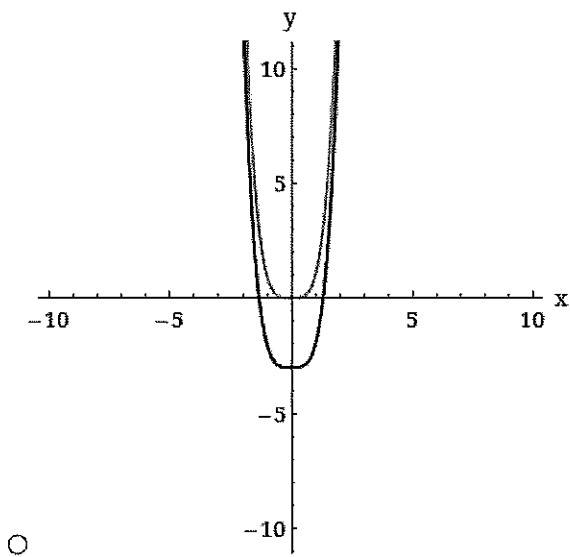
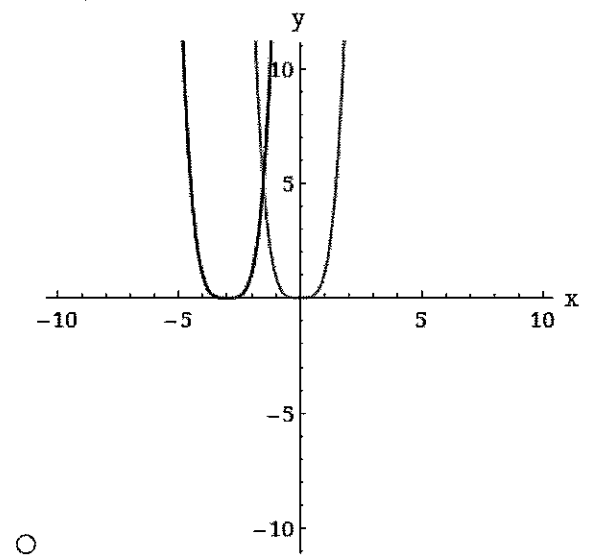
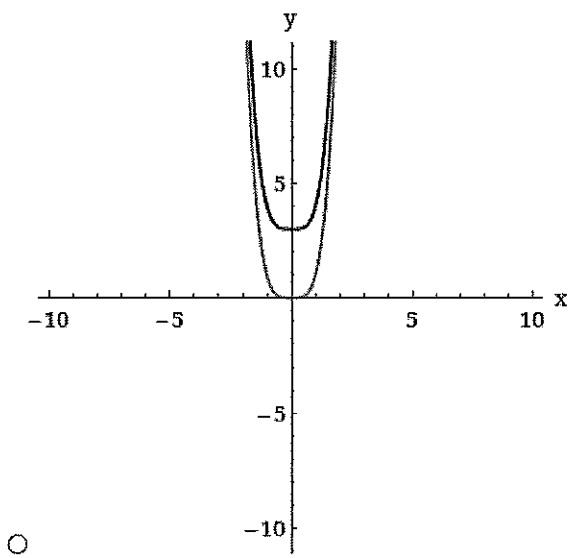
Sketch the graph of $y = x^n$ and each transformation.

$$y = x^4$$

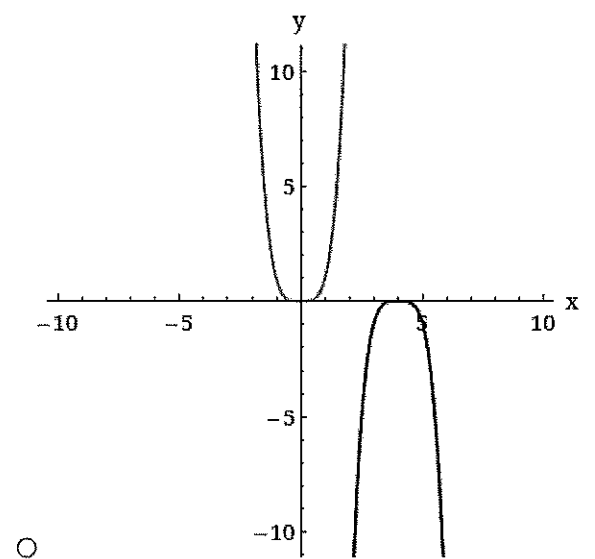
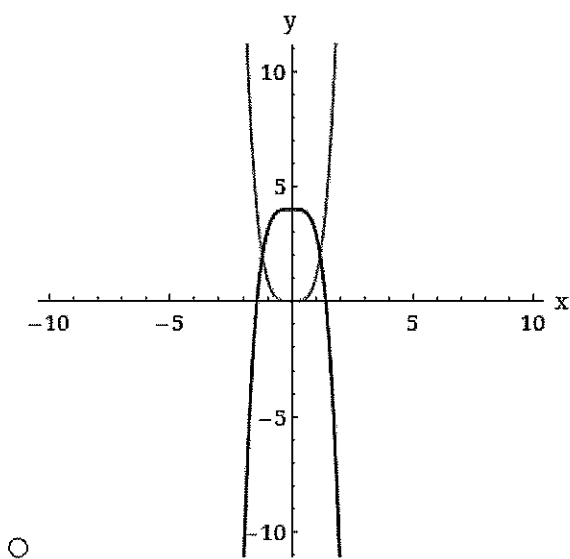
(a) $f(x) = (x + 3)^4$

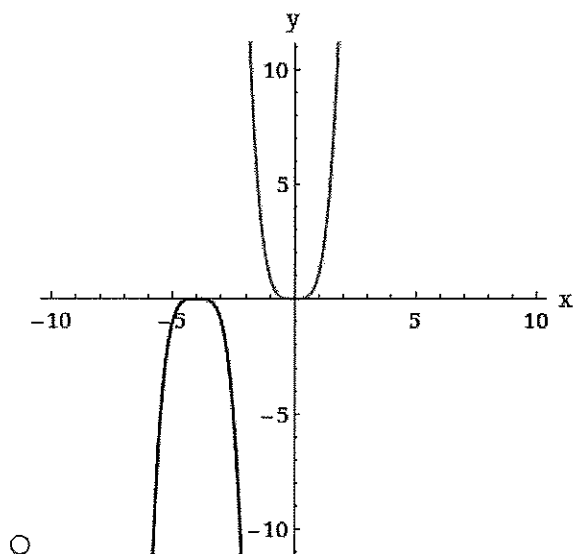
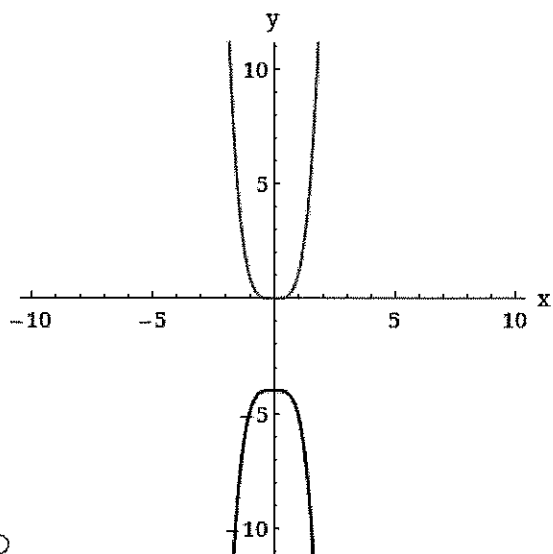


(b) $f(x) = x^4 - 3$

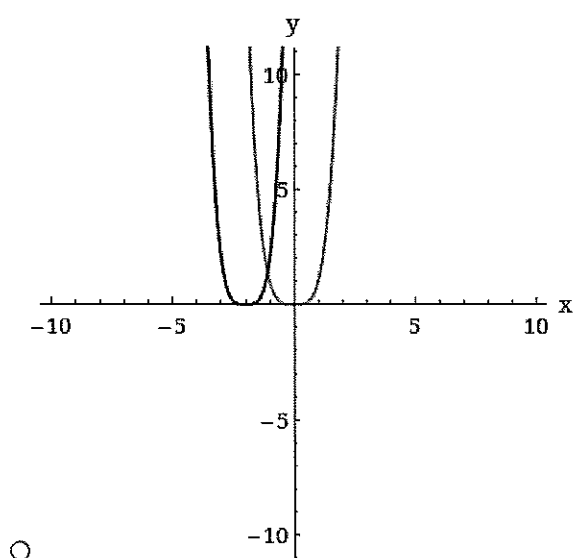
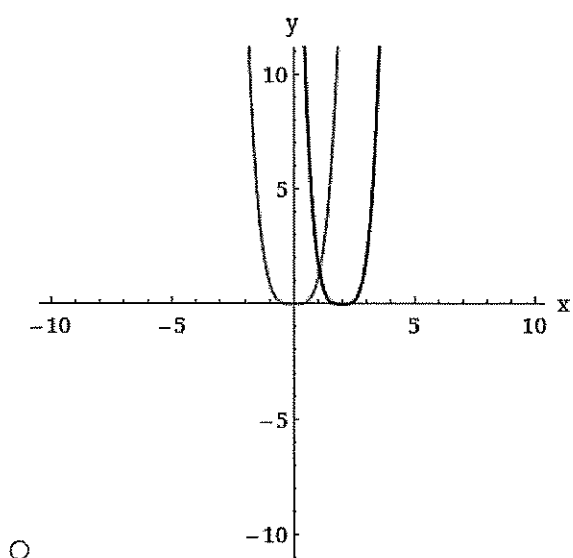
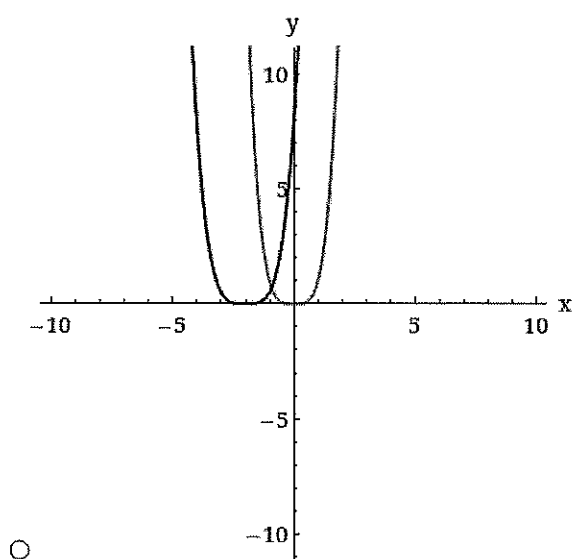
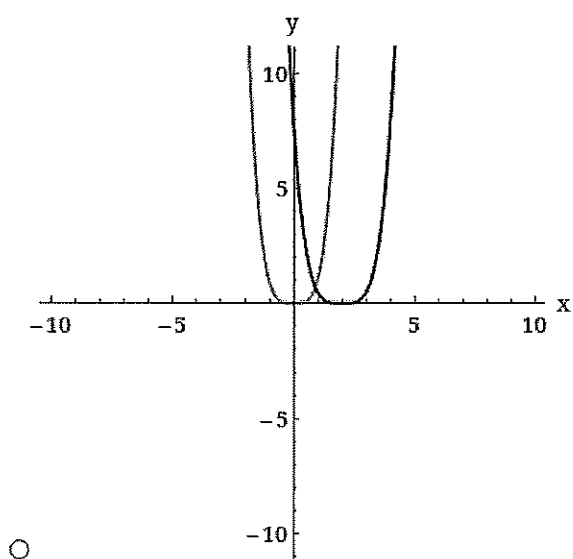


(c) $f(x) = 4 - x^4$

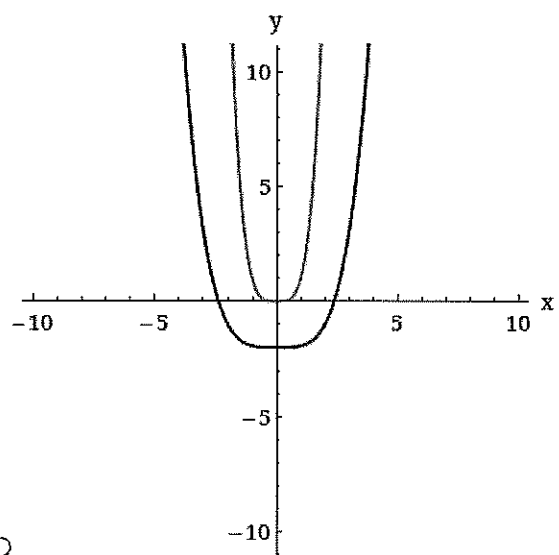
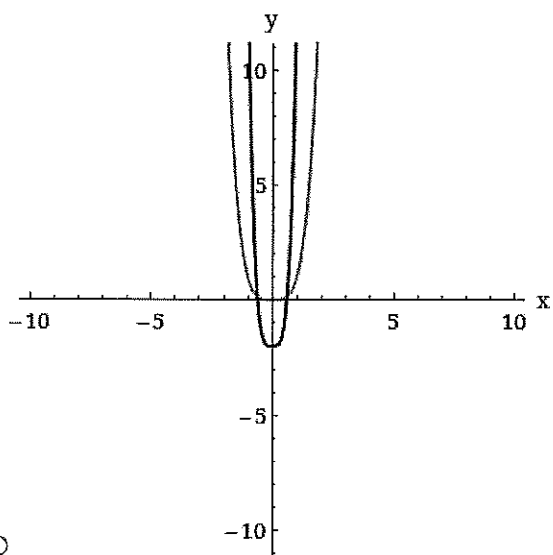
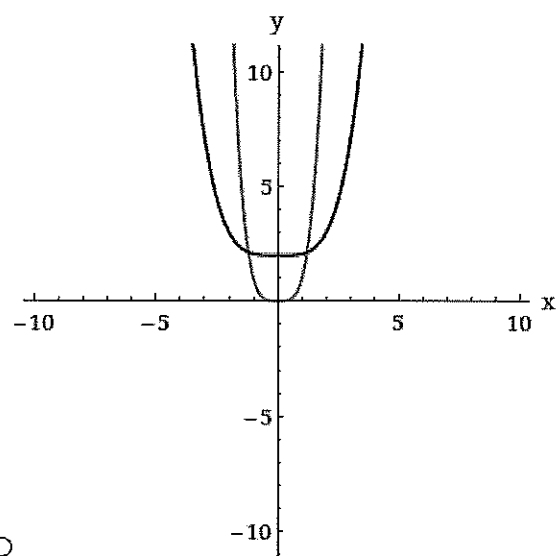
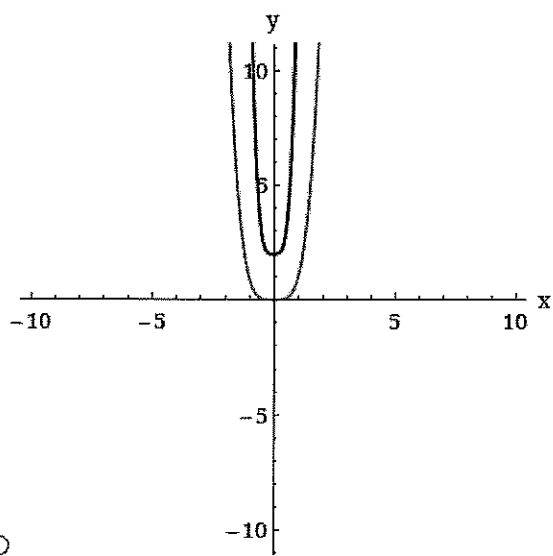




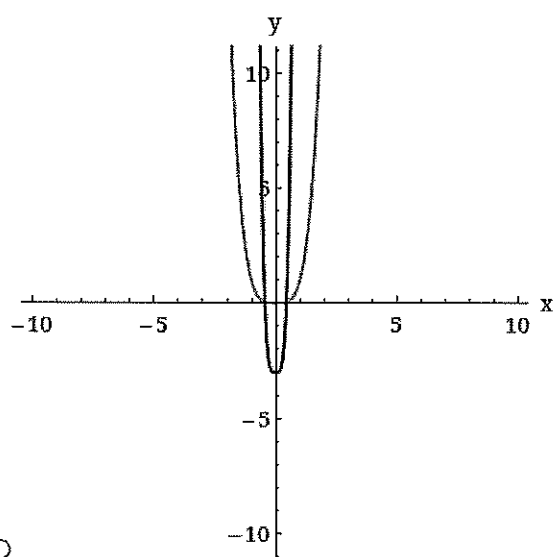
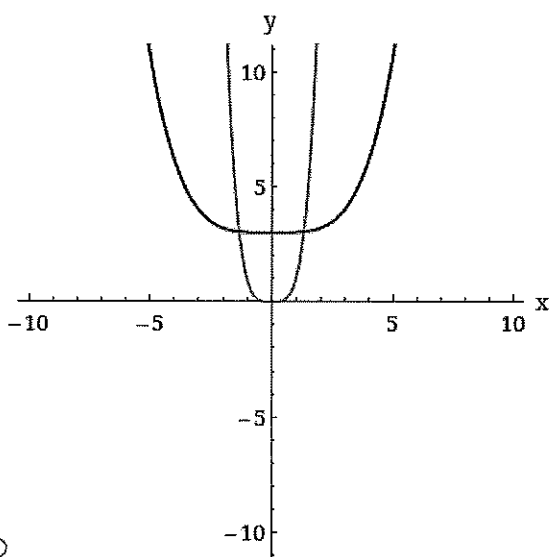
(d) $f(x) = \frac{1}{2}(x - 2)^4$

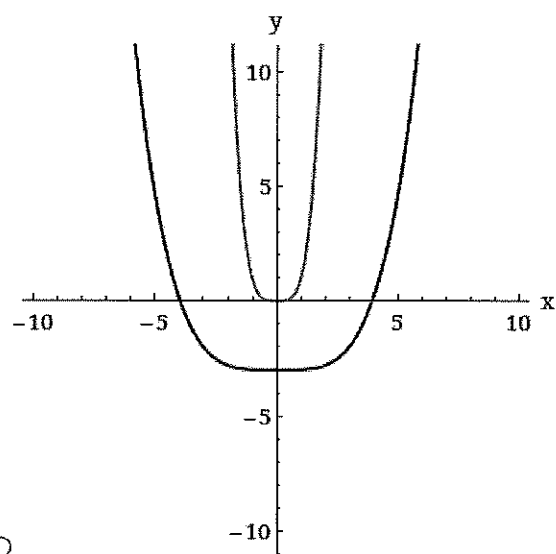
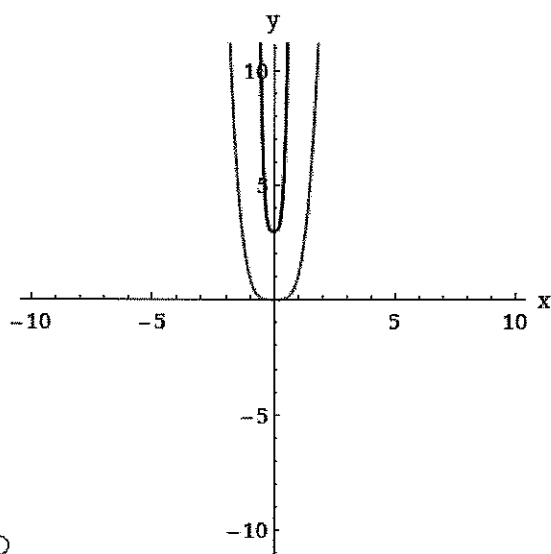


(e) $f(x) = (2x)^4 + 2$



(f) $f(x) = \left(\frac{1}{3}x\right)^4 - 3$





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10. [-/4 Points]

DETAILS

LARPCALC10 2.2.021. 0/15 Submissions Used

MY NOTES

ASK YOUR TEACHER

Describe the left-hand and right-hand behavior of the graph of the polynomial function. (Select all that apply.)

$$g(x) = 3 - \frac{1}{2}x - 5x^2$$

- ☐ The graph rises to the right.
- ☐ The graph falls to the right.
- ☐ The graph rises to the left.
- ☐ The graph falls to the left.

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11. [-/4 Points]

DETAILS

LARPCALC10 2.3.012. 0/15 Submissions Used

MY NOTES

ASK YOUR TEACHER

Use long division to divide. (Simplify your answer completely.)

$$(8x^2 - 69x - 27) \div (x - 9)$$

, $x \neq 9$

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12. [-/4 Points]

DETAILS

LARPCALC10 2.3.014.MI. 0/15 Submissions Used

MY NOTES

ASK YOUR TEACHER

Use long division to divide.

$$(10x^3 - 14x^2 + 19x - 6) \div (5x - 2)$$

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Master It

13. [-/4 Points]

DETAILS

LARPCALC10 2.3.017. 0/15 Submissions Used

MY NOTES

ASK YOUR TEACHER

Use long division to divide. (Simplify your answer completely.)

$$(8x + 7) \div (x + 1)$$

$$, \quad x \neq -1$$

Need Help?

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14. [-/4 Points]

DETAILS

LARPCALC10 2.3.024. 0/15 Submissions Used

MY NOTES

ASK YOUR TEACHER

Use long division to divide. (Simplify your answer completely.)

$$\frac{2x^3 - 4x^2 - 15x + 3}{(x - 1)^2}$$

$$, \quad x \neq 1$$

Need Help?

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15. [-/4 Points]

DETAILS

LARPCALC10 2.3.034.MI. 0/15 Submissions Used

MY NOTES

ASK YOUR TEACHER

Use synthetic division to divide.

$$(3x^3 + 6x + 8) \div (x + 2)$$

Need Help?

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16. [-/4 Points]

DETAILS

LARPCALC10 2.4.009. 0/15 Submissions Used

MY NOTES

ASK YOUR TEACHER

Find real numbers a and b such that the equation is true.

$$(a - 4) + (b + 3)i = 7 + 6i$$

 $a =$ $b =$

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17. [-/4 Points]

DETAILS

LARPCALC10 2.4.011. 0/15 Submissions Used

MY NOTES

ASK YOUR TEACHER

Write the complex number in standard form.

$$2 + \sqrt{-9}$$

Need Help?

Read It

18. [-/4 Points]

DETAILS

LARPCALC10 2.4.015. 0/15 Submissions Used

MY NOTES

ASK YOUR TEACHER

Write the complex number in standard form.

$$\sqrt{-44}$$

Need Help?

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19. [-/4 Points]

DETAILS

LARPCALC10 2.4.019. 0/15 Submissions Used

MY NOTES

ASK YOUR TEACHER

Write the complex number in standard form.

$$-3i + i^2$$

Need Help?

Read It

20. [-/4 Points]

DETAILS

LARPCALC10 2.4.023. 0/15 Submissions Used

MY NOTES

ASK YOUR TEACHER

Perform the operation and write the result in standard form.

$$(5 + i) + (4 + 7i)$$

Need Help?

Read It

21. [-/4 Points]

DETAILS

LARPCALC10 2.4.028. 0/15 Submissions Used

MY NOTES

ASK YOUR TEACHER

Perform the operation and write the result in standard form.

$$(8 + \sqrt{-12}) - (4 + 2\sqrt{3}i)$$

Need Help?

Read It

Watch It

22. [-/4 Points]

DETAILS

LARPCALC10 2.4.031. 0/15 Submissions Used

MY NOTES

ASK YOUR TEACHER

Perform the operation and write the result in standard form.

$$(1 + i)(3 - 2i)$$

Need Help?

Read It

23. [-/4 Points]

DETAILS

LARPCALC10 2.4.033. 0/15 Submissions Used

MY NOTES

ASK YOUR TEACHER

Perform the operation and write the result in standard form.

$$19(1 - 9i)$$

Need Help?

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24. [-/4 Points]

DETAILS

LARPCALC10 2.4.036. 0/15 Submissions Used

MY NOTES

ASK YOUR TEACHER

Perform the operation and write the result in standard form.

$$(2 + \sqrt{6}i)(2 - \sqrt{6}i)$$

Need Help?

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Watch It

25. [-/4 Points]

DETAILS

LARPCALC10 2.4.039. 0/15 Submissions Used

MY NOTES

ASK YOUR TEACHER

Write the complex conjugate of the complex number.

$$2 + 3i$$

Multiply the number by its complex conjugate. (Simplify your answer completely.)

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