Math 126 Name:_____

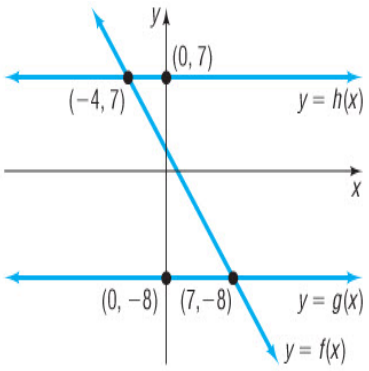
FINAL EXAM REVIEW & KEY

Final Exam Study Suggestions
The 50 question, multiple-choice final exam consists of two parts: no calculator and calculator. To help you thoroughly study for the final exam, the mathematics department has prepared this review packet. The review contains 50 open-response questions (A) and 50 multiple-choice questions (B). After working all the open-response questions, use the multiple-choice questions as a practice test. Set aside a one hour and 50 minute block of time and complete the multiple-choice questions without using your notes, text, or a tutor. Use the answer key to check your work and pay close attention to the questions you get wrong. Additional practice on the concepts giving you difficulty is suggested. Refer to your notes or text for additional practice problems. Seek help from your instructor or a tutor.

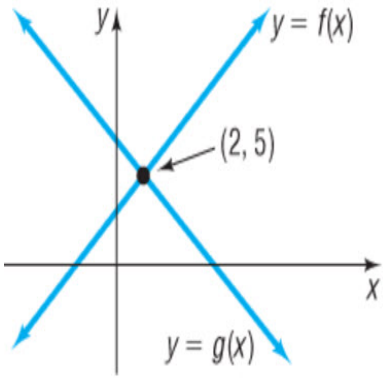
Additional study tips are:

- Watch for sign errors!
- Check your answer in the problem.
- Final Exam problems combine ideas - think through the steps necessary to get the correct answer.
- Be sure to study ideas that look similar but are very different.
- Use the distinguishing characteristics of equations to guide you in selecting an appropriate method for solving.
- Complete the Math 126 Review in time to get help from the Learning Center and/or your instructor. Do not wait until the day before the Final Exam.
- Know when your final is scheduled:
  - Day and Date _____
  - Time _____
  - Room _____
- Bring sharpened #2 pencils with erasers, a calculator, and your Schoolcraft ID number.
- Review questions 1-25 reflect the type of skills tested on the **No Calculator** part of the test.

1A. Use the following graph to solve $f(x) \leq h(x)$.



1B. Use the following graph to solve $f(x) > g(x)$.



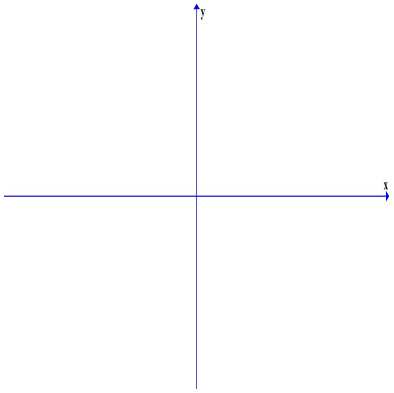
A) $(2, \infty)$

B) $(-\infty, 5)$

C) $(5, \infty)$

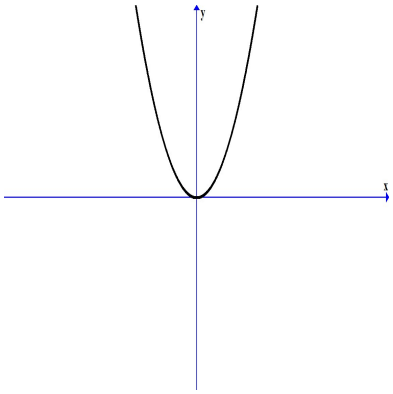
D) $(-\infty, 2)$

2A. Sketch the graph of $f(x) = x^3$.

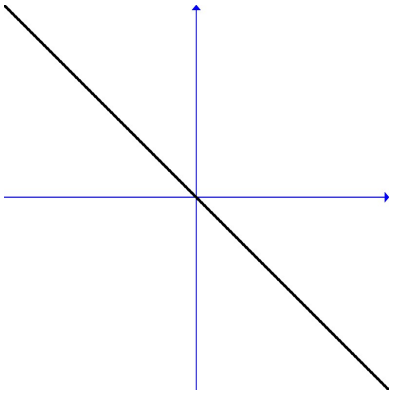


2B. Identify the graph of $f(x) = |x|$.

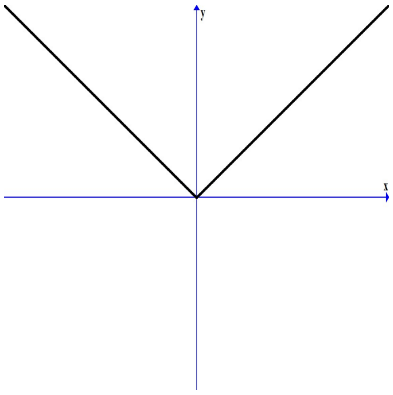
A)



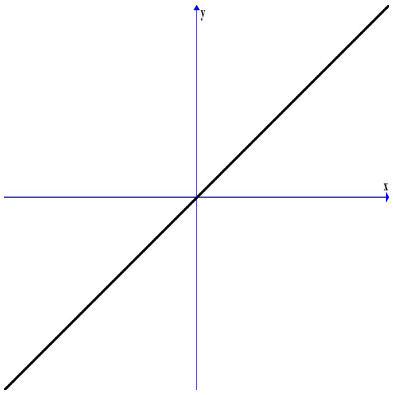
C)



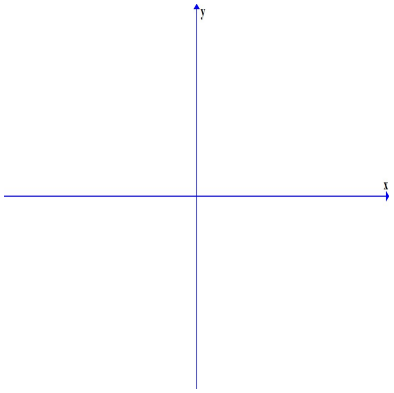
B)



D)

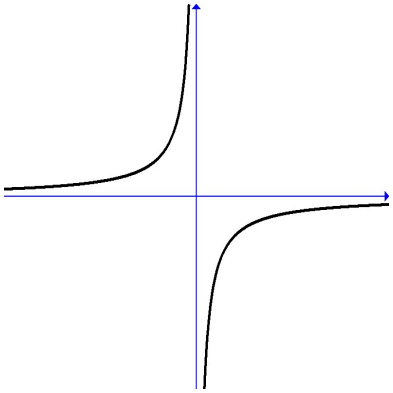


3A. Sketch the graph of $f(x) = \sqrt{x}$.

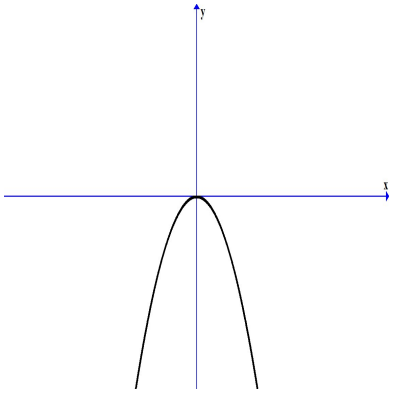


3B. Identify the graph of $f(x) = \dfrac{1}{x^2}$.

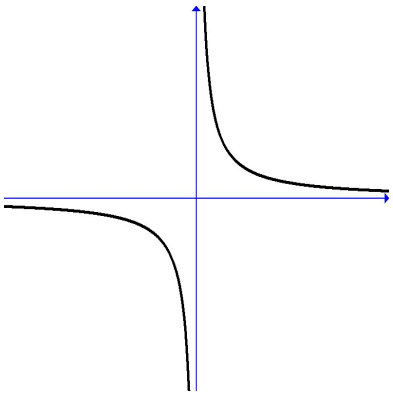
A)



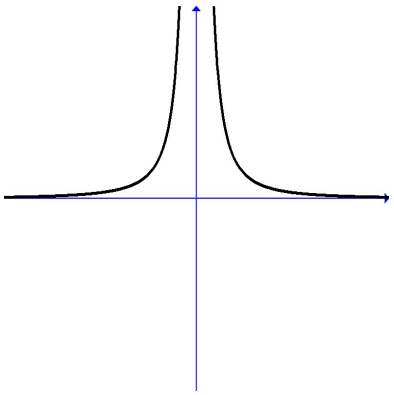
C)



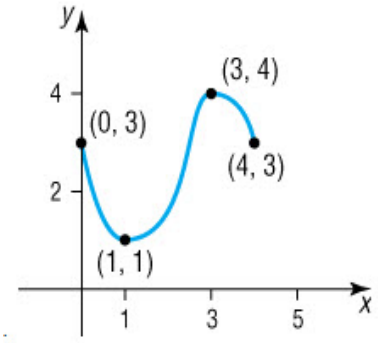
B)



D)



4A. Find the local maximum(s) of the following graph. Give the coordinates.



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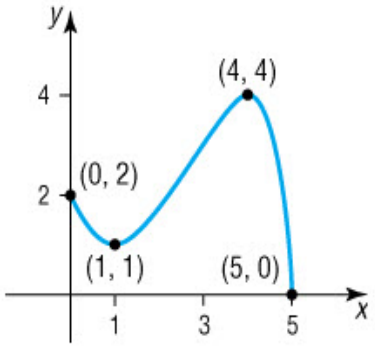
4B. Find the local minimum(s) of the following graph. Give the coordinates.



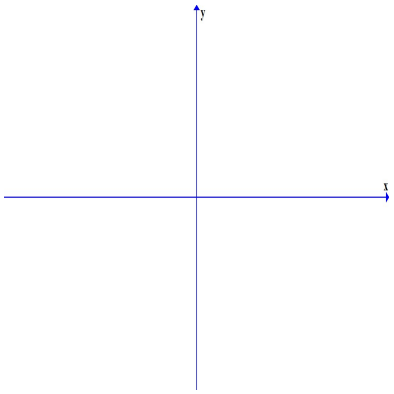
A) $(5, 0)$

B) $(1, 1)$

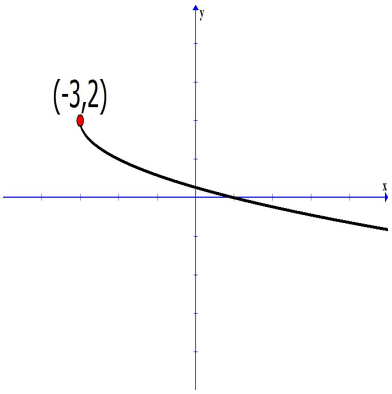
C) $(1, 1)$ and $(5, 0)$

D) $(0, 2)$

5A. Sketch the graph of $f(x) = \dfrac{1}{x+2} - 3$.



5B. Choose the function whose graph is given below:



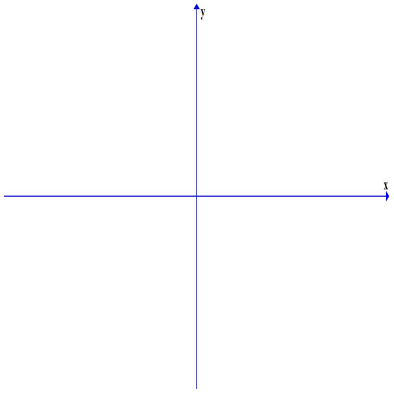
A) $f(x) = -\sqrt{x-3} - 2$

B) $f(x) = \sqrt{x+3} + 2$

C) $f(x) = -\sqrt{x+3} + 2$

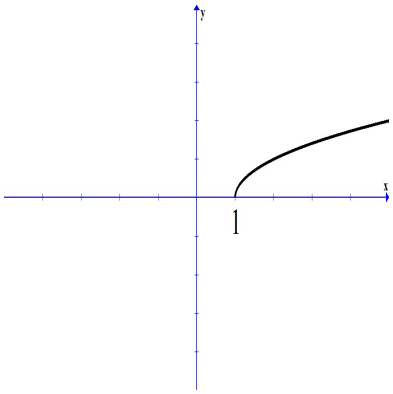
D) $f(x) = -\sqrt{x-3} + 2$

6A. Sketch the graph of $f(x) = -x^2 - 3$.

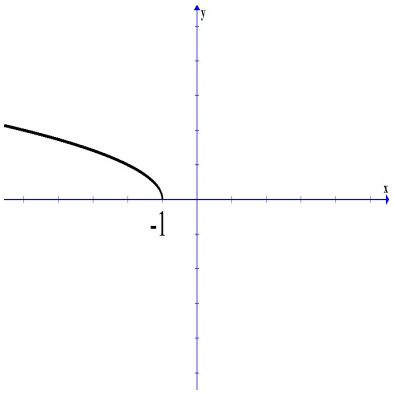


6B. Identify the graph of $f(x) = \sqrt{-x+1}$.

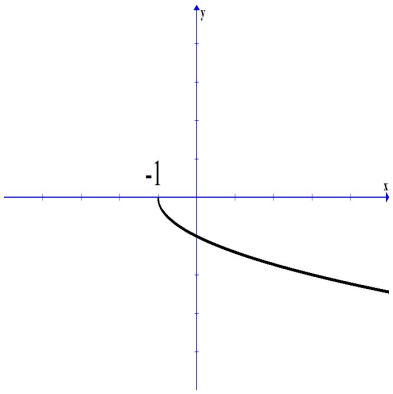
A)



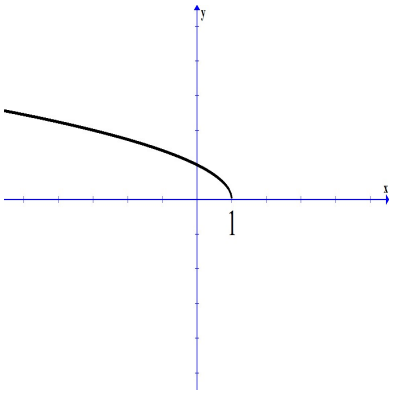
C)



B)



D)



7A. Determine whether $f(x) = \sqrt[3]{x} + 3x$ is even, odd, or neither.

7B. Determine the function that is odd.

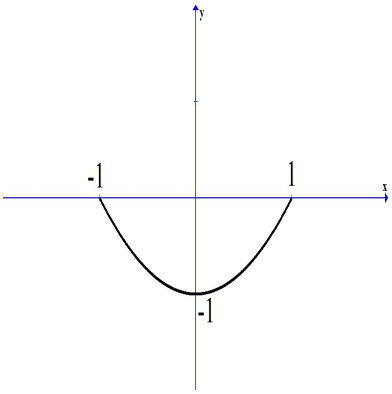
A) $f(x) = 7$

B) $f(x) = x^3 + x^2$

C) $f(x) = 7x$

D) $f(x) = x^5 + 1$

8A. Determine if the graph represents an even function, odd function, or neither.



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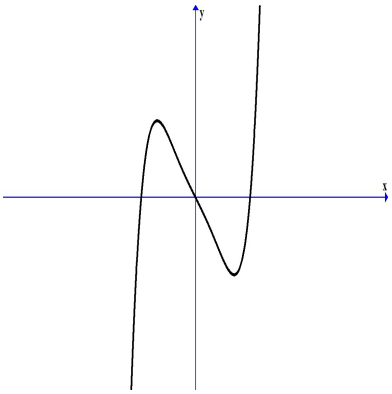
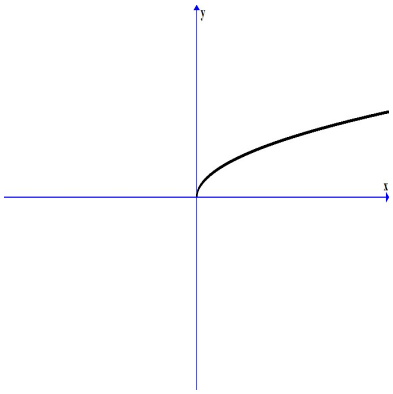
8B. Which graph represents the graph of an even function?

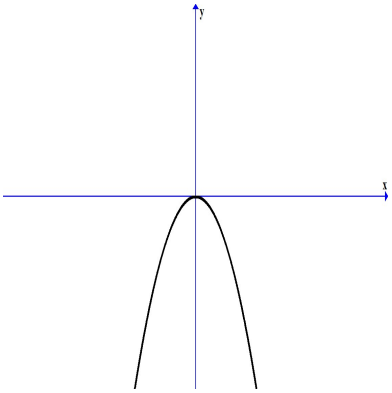
A)



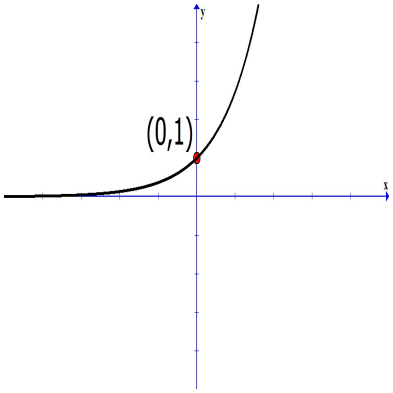
C)



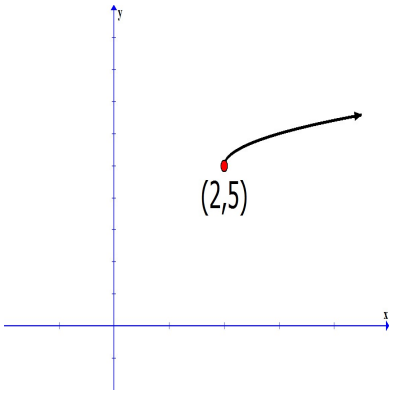
B)



D)



9A. Identify the domain of the function.



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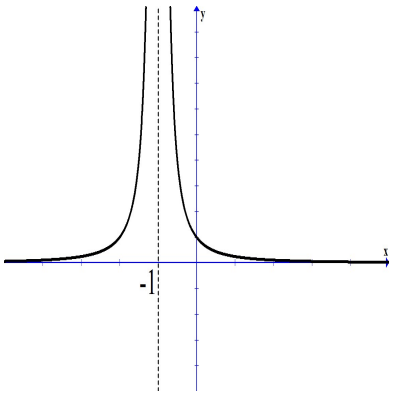
9B. Identify the domain of the function.



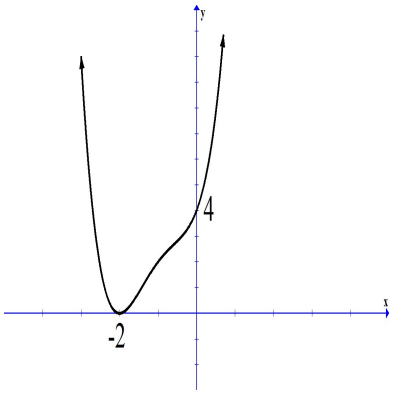
A) $[-1, \infty)$

B) $(-\infty, \infty)$

C) $(-\infty, 0) \cup (0, \infty)$

D) $(-\infty, -1) \cup (-1, \infty)$

10A. Identify the range of the function.



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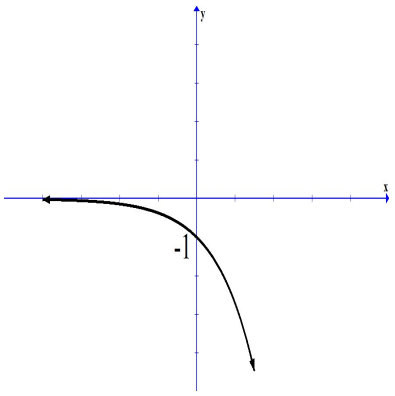
10B. Identify the range of the function.



A) $(-\infty, 0)$

B) $(0, \infty)$

C) $[-\infty, \infty)$

D) $(-\infty, 1)$

11A. Give the equation of the horizontal asymptote, if any, of the function.

$$h(x) = \frac{5x^2 - 7x + 2}{2x^2 - 4x + 9}$$

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11B. Give the equation of the horizontal asymptote(s) of the function.

$$f(x) = \frac{x + 3}{x^2 - 4}$$

A) $y = 1$

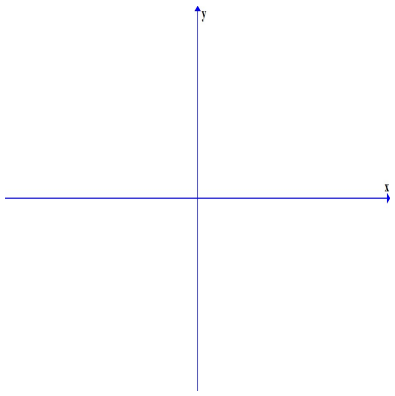
B) $y = -3$

C) $y = -2, y = 2$

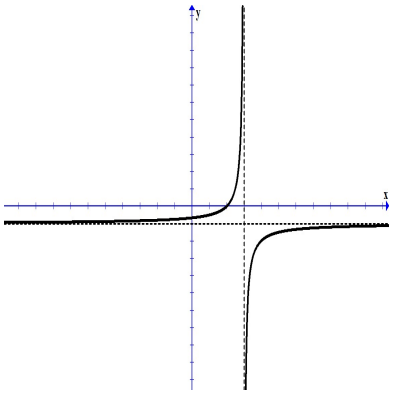
D) $y = 0$

12A. Sketch the graph of the following function. Include any vertical and/or horizontal asymptotes.

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



12B. Match the graph to its function.



A) $f(x) = \dfrac{2-x}{x+3}$

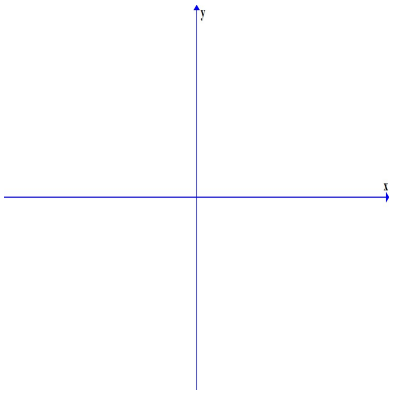
B) $f(x) = \dfrac{2+x}{x-3}$

C) $f(x) = \dfrac{2-x}{x-3}$

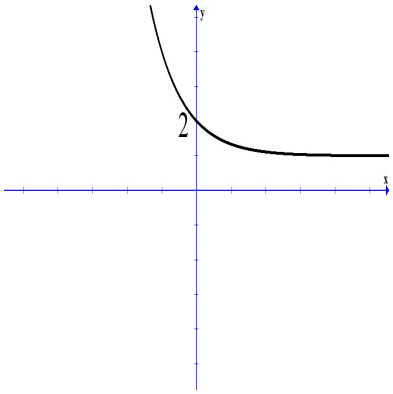
D) $f(x) = \dfrac{2+x}{x+3}$

13A. Sketch the graph of the following function.

$f(x) = \log_3(x+1)$



13B. Match the graph to its function.



A) $f(x) = -3^x - 1$

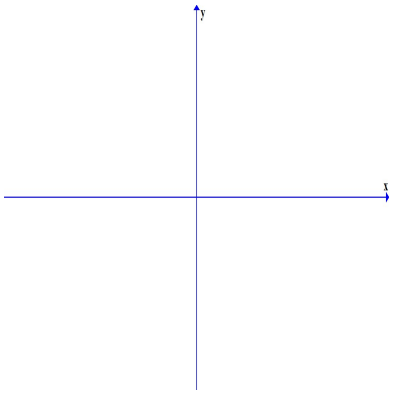
B) $f(x) = -\log_3(x-1)$

C) $f(x) = 3^{-x} + 1$

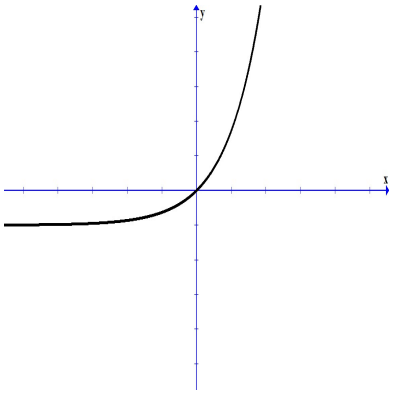
D) $f(x) = \log_3(x+1)$

14A. Sketch the graph of the following function.

$f(x) = \ln(x) + 1$



14B. Match the graph to its function.



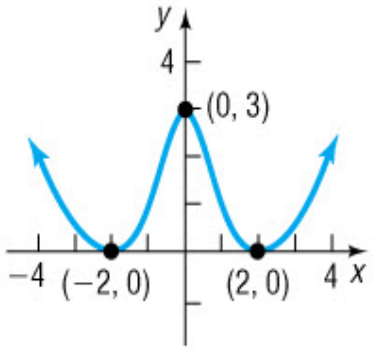
A) $f(x) = e^x - 1$

B) $f(x) = \ln(x) - 1$

C) $f(x) = e^{x-1}$

D) $f(x) = \ln(x - 1)$

15A. Determine the interval(s) over which the function is increasing.



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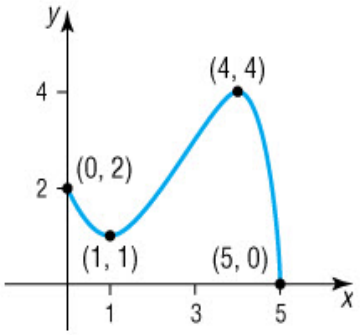
15B. Determine the interval(s) over which the function is decreasing.



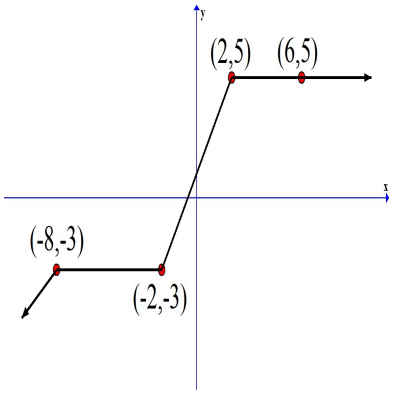
A) $(0, 1) \cup (2, 5)$

B) $(0, 2) \cup (4, 5)$

C) $(0, 1) \cup (4, 5)$

D) $(1, 2) \cup (4, 5)$

16A. Determine the interval(s) over which the function is constant.



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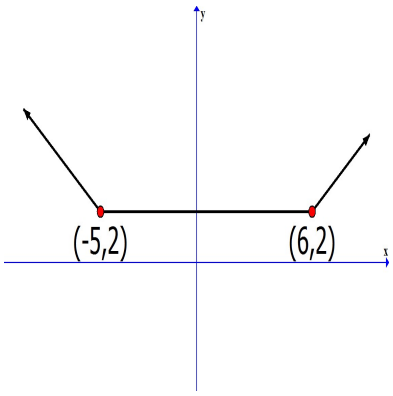
16B. Determine the interval(s) over which the function is constant.



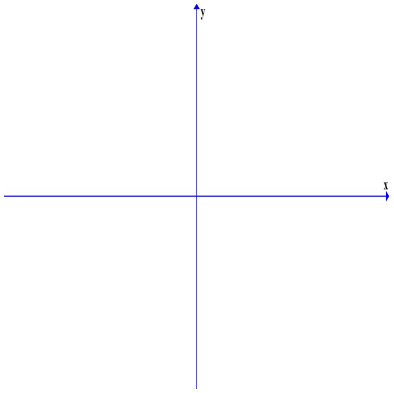
A) $(-\infty, -5) \cup (6, \infty)$

B) $(-\infty, 6)$

C) $(-5, \infty)$

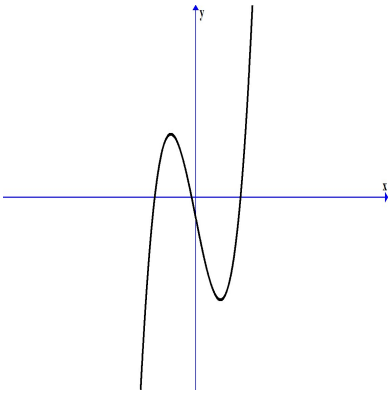
D) $(-5, 6)$

17A. Graph $f(x) = (x+2)^2(x-1)$ using end behavior, the y-intercept, and x-intercepts.

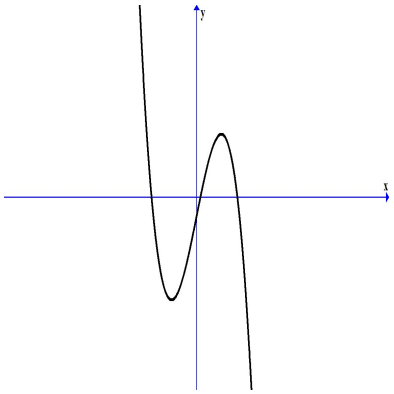


17B. Choose the graph that represents $f(x) = -x^3 + 5x - 1$.

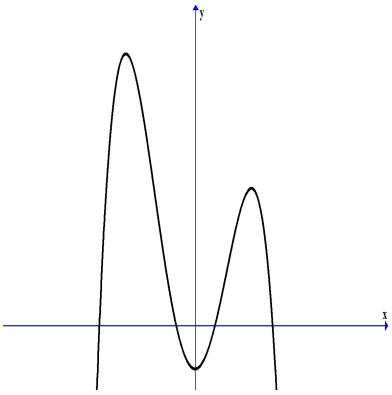
A)



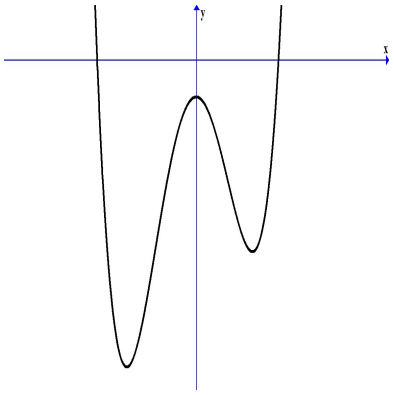
C)



B)



D)



18A. If $f(x) = \sqrt{x-2}$ and $g(x) = x^2 + 6$, find $(g \circ f)(x)$.

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18B. If $f(x) = \dfrac{x}{x+1}$ and $g(x) = x + 5$, find $(f \circ g)(x)$.

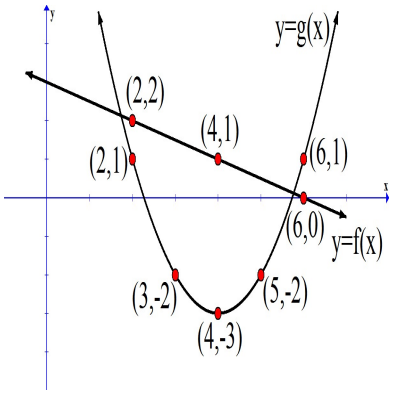
A) $\dfrac{x+5}{x+6}$, $x \neq -6$

B) $\dfrac{x(x+5)}{x+1}$, $x \neq -1$

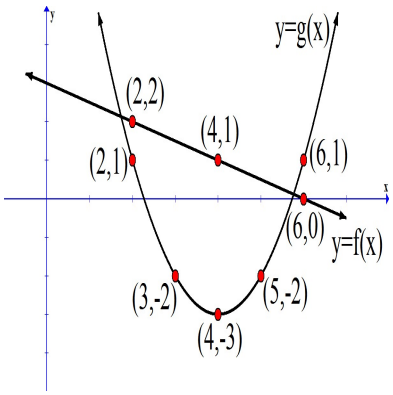
C) $\dfrac{x}{x+6}$, $x \neq -6$

D) $\dfrac{x}{x+1} + 5$, $x \neq -1$

19A. Use the graph to find $(f \cdot g)(2)$.



19B. Use the graph to find $(f - g)(6)$.



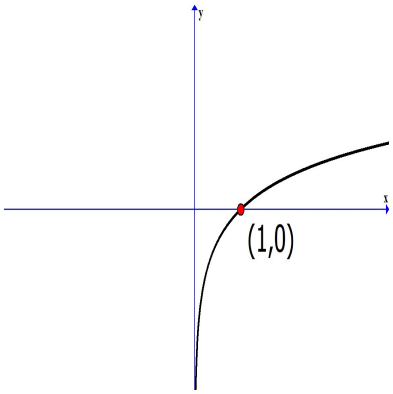
A) 1

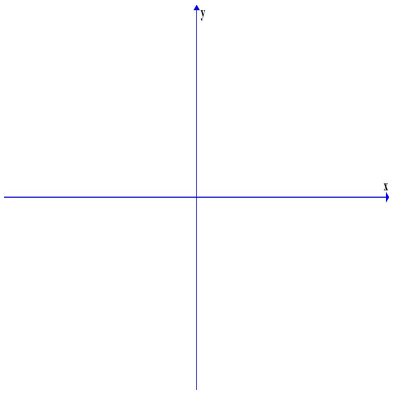
B) -4

C) -1

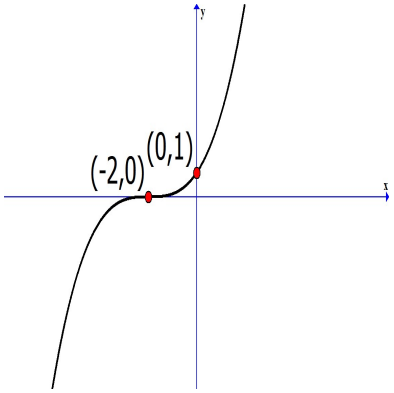
D) 2

20A. Graph the inverse of the given function.

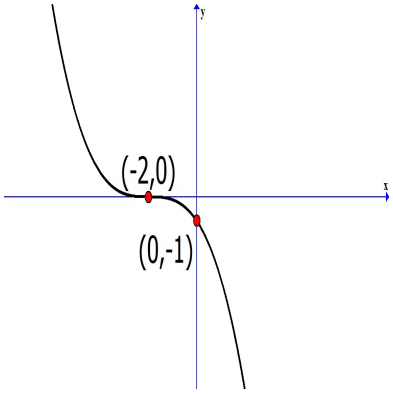




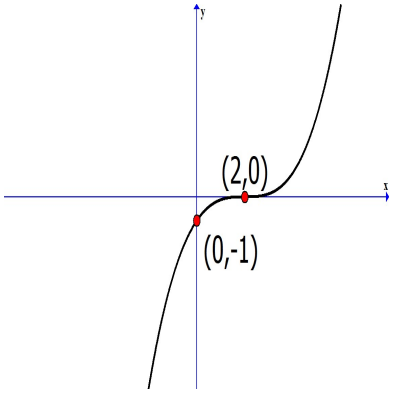
20B. Select the inverse graph for the given function.



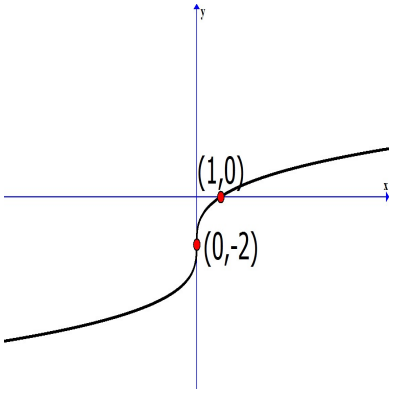
A)



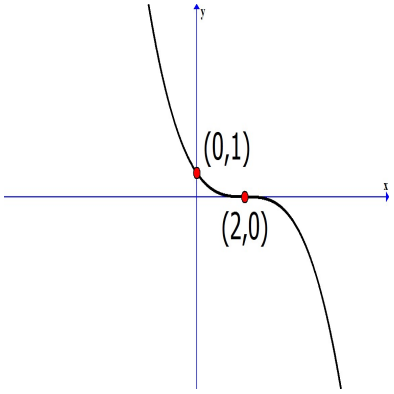
C)



B)



D)



21A. Find the inverse of $g(x) = \{(-20, 15), (-4, 11), (8, 9)\}$.

_____

21B. Find the inverse function for $f(x) = \{(3, 25), (5, 16), (7, 7)\}$.

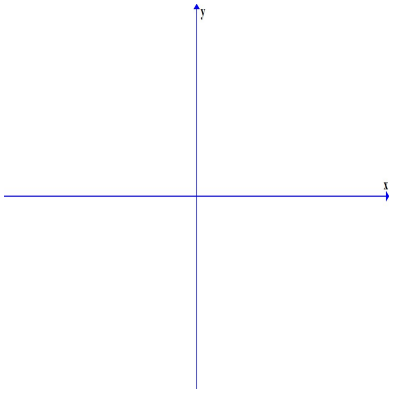
A) $\{(-3, -25), (-5, -16), (-7, -7)\}$

B) $\{(-3, 25), (-5, 16), (-7, 7)\}$

C) $\{(3, -25), (5, -16), (7, -7)\}$

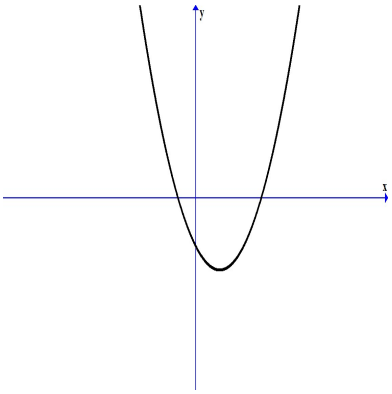
D) $\{(25, 3), (16, 5), (7, 7))\}$

22A. Graph $g(x) = \sqrt{x+5} - 1$.

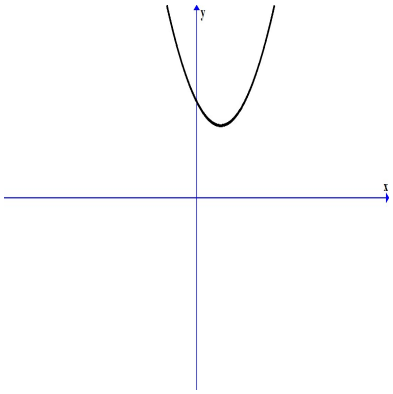


22B. Identify the graph of $f(x) = (x-1)^2 + 3$.

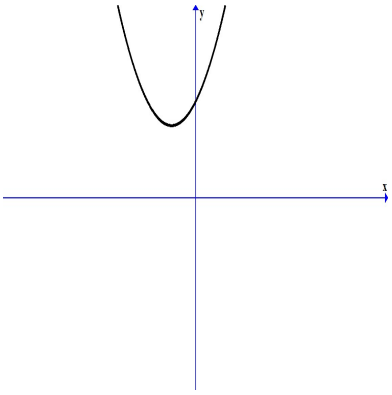
A)



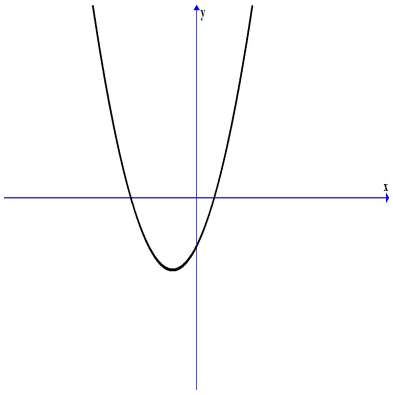
C)



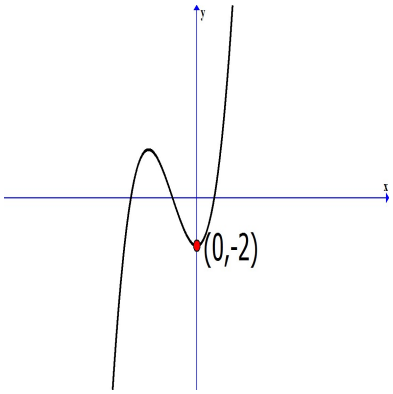
B)



D)



23A. Match the graph to the function.



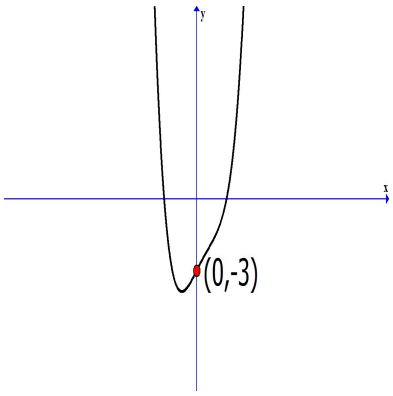
A) $f(x) = -x^2 + 3x - 2$

B) $f(x) = -x^3 + 3x + x - 2$

C) $f(x) = x^3 + 3x^2 - 2$

D) $f(x) = x^2 + 3x - 2$

23B. Match the graph to the function.



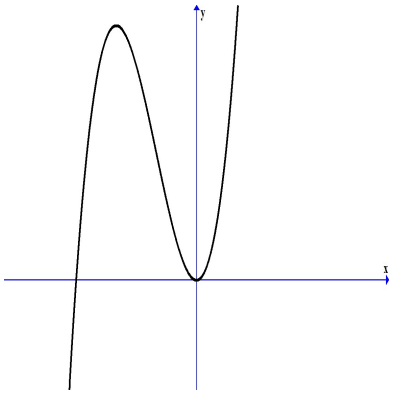
A) $f(x) = x^4 - x^3 + 2x - 3$

B) $f(x) = -x^4 - x^3 + 2x$

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

D) $f(x) = -x^3 - x^2 + 2x - 3$

24A. Match the graph to the function.



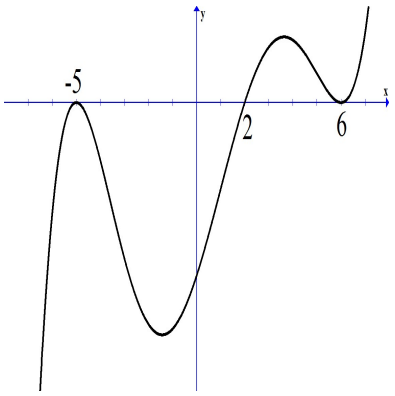
A) $f(x) = (x-1)(x+5)$

B) $f(x) = x^2(x+5)$

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

D) $f(x) = x(x+5)$

24B. Match the graph to the function.



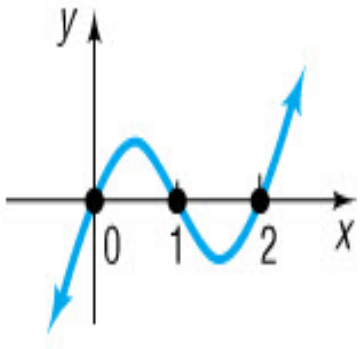
A) $f(x) = (x-5)^2(x+2)(x+6)^2$

B) $f(x) = (x+5)(x-2)(x-6)$

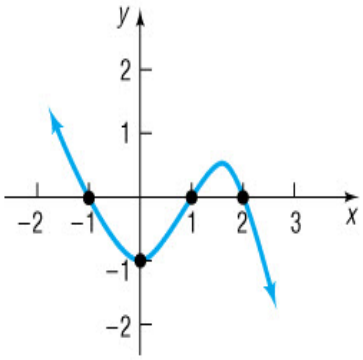
C) $f(x) = (x-5)(x+2)(x+6)$

D) $f(x) = (x+5)^2(x-2)(x-6)^2$

25A. Solve the inequality $f(x) > 0$.



25B. Solve the inequality $f(x) \leq 0$.



A) $[-1, 1] \cup [2, \infty)$

B) $(-\infty, -1] \cup [1, 2]$

C) $(-\infty, 0]$

D) $[-1, 1]$

26A. Write the function whose graph is the graph of $y = |x|$, but is vertically compressed by a factor of 2, reflected about the x-axis, and is shifted left by 5 units.

_____

26B. Write the function whose graph is the graph of $y = \sqrt[3]{x}$, but is vertically stretched by factor of 4, shifted left 2 units, and shifted down 1 unit.

A) $f(x) = 4\sqrt[3]{x+2} - 1$

B) $f(x) = 4\sqrt[3]{x-2} + 1$

C) $f(x) = \sqrt[3]{4x+2} - 1$

D) $f(x) = \frac{1}{4}\sqrt[3]{x+2} - 1$

27A. Use a graphing calculator to graph the function and give the coordinates of the local minimums(s). If necessary, round to two decimal places.

$f(x) = x^3 - x^2 + 2$ _____

27B. Use a graphing calculator to graph the function and give the coordinates of the local maximum(s). If necessary, round to two decimal places.

$f(x) = x^4 + x^3 - 2x^2 + 6$

A) $(-1.44, 3.17)$

B) $(0, 6)$

C) $(0.69, 5.60)$

D) $(-1.44, 3.17)$ and $(0.69, 5.60)$

28A. Find $(g \circ f)(6)$ if $f(x) = \sqrt{x+3}$ and $g(x) = x^3$.

28B. Find $(f \circ g)(-2)$ if $f(x) = \dfrac{x}{x+1}$ and $g(x) = x^2$.

A) 4

B) $\frac{4}{3}$

C) $\frac{4}{5}$

D) 8

29A. Find the inverse function of $g(x) = \sqrt[3]{x} + 10$.

29B. Find the inverse function of $f(x) = \sqrt{x+7} - 1$.

A) $f^{-1}(x) = (x+1)^2 - 7$

B) $f^{-1}(x) = \sqrt{x-7} + 1$

C) $f^{-1}(x) = x + 6$

D) $f^{-1}(x) = x - 6$

30A. Suppose that the quantity supplied S and the quantity demanded D of hot dogs at a baseball game are given by the following equations.

$$S = -2000 + 3000p \qquad D = 10000 - 1000p$$

Determine the prices p for which the quantity demanded is greater than the quantity supplied. Use interval notation.

30B. Suppose that the quantity supplied S and the quantity demanded D of baseball caps at a major league game are given by the following equations.

$$S = -600 + 50p \qquad D = 1200 - 25p$$

Determine the prices p for which the quantity demanded is less than the quantity supplied.

A) $[0, 24)$

B) $(25, \infty)$

C) $[0, 50)$

D) $(24, \infty)$

31A. Form a polynomial of degree 3 whose zeros are -3, 3, and 4. Write your final answer in the form $f(x) = x^3 + bx^2 + cx + d$.

31B. Form a polynomial of degree 3 whose zeros are $-\sqrt{2}$, $\sqrt{2}$, and 3.

A) $f(x) = x^3 + 3x^2 - 2x + 6$

B) $f(x) = x^3 - 3x^2 + 2x - 6$

C) $f(x) = x^3 - 3x^2 - 2x + 6$

D) $f(x) = x^3 + 3x^2 - 2x - 6$

32A. Find all the zeros of polynomial function $f(x) = x^3 + 7x^2 - 6x - 42$. Then use the zeros to write the function in factored form.

32B. Find all zeros of the polynomial function $f(x) = x^4 - 9x^2 + 20$. Then use zeros to write the function in factored form.

A) $f(x) = (x+2)(x-2)(x+\sqrt{5})(x-\sqrt{5})$

B) $f(x) = (x-2)^2(x-\sqrt{5})^2$

C) $f(x) = (x+2)(x-2)(x+5)(x-5)$

D) $f(x) = (x+\sqrt{2})(x-\sqrt{2})(x+\sqrt{5})(x-\sqrt{5})$

33A. The price per item p (in dollars) and the quantity sold x of a certain product obey the demand equation: $p = -\frac{1}{20}x + 200$. Use the fact that $R = xp$ to express the revenue R as a function of x. What is the maximum revenue?

_____

33B. The price per item p (in dollars) and the quantity sold x of a certain product obey the demand equation: $p = -\frac{1}{20}x + 300$. Use the fact that $R = xp$ to express the revenue R as a function of x. What is the maximum revenue?

A) \$30

B) \$3000

C) \$450,000

D) \$895,500

34A. Find the amount in a savings account at the end of 8 years if the amount originally deposited is \$8000 and the interest rate is 7% compounded quarterly. Use $A = P\left(1 + \frac{r}{n}\right)^{nt}$

34B. Find the amount in a savings account at the end of 5 years if the amount originally deposited is \$8000 and the interest rate is 5% compounded monthly. Use $A = P\left(1 + \frac{r}{n}\right)^{nt}$

A) \$10,272.20

B) \$10,266.87

C) \$10,256.40

D) \$10,000.00

35A. The size P of a small herbivore population at time t (in years) obeys the function $P(t) = 700e^{kt}$ if they have enough food and the predator population stays constant. After 4.65 years, the population has reached 3000. Find the value of k, rounded to the nearest hundredth.

_____

35B. The size P of a small herbivore population at time t (in years) obeys the function $P(t) = 500e^{kt}$ if they have enough food and the predator population stays constant. After 8.52 years, the population has reached 4000. Find the value of k, rounded to the nearest hundredth.

A) 0.24

B) 0.13

C) 0.27

D) 1.07

36A. In a certain city, the cost of a taxi ride is computed as follows: There is a fixed charge of \$2.75 as soon as you get in the taxi, to which a charge of \$1.20 per mile is added. Find an equation that can be used to determine the cost $C(x)$ of an x-mile taxi ride:

_____

36B. A truck rental company rents a moving truck one day by charging \$50 plus \$0.65 per mile. Write a linear equation that gives the cost $C(x)$, in dollars, of renting the truck and driving it x miles.

A) $C(x) = 0.65 + 50x$

B) $C(x) = 50 + 0.65x$

C) $C(x) = 50 + 65x$

D) $C(x) = 65 + 50x$

37A. A nuclear scientist has a sample of 100 mg of radioactive material. She monitors the amount of radioactive material over a 30-hour period and obtains the data below.

Hours	0	5	10	15	20	25	30
mg	100	67.3	46.1	31.5	21.6	14.8	10.1

Rounding to 4 decimal places, use a graphing utility to find an **exponential model** for the data. Then use the exponential model to predict the amount of material remaining after 40 hours, rounded to two decimal places.

37B. The population y of a certain city (in **thousands**) from 2005 to 2015 is given in the table below, where $x = 5$ corresponds to 2005

x	5	7	9	11	13	15
y	8.31	9.88	11.74	13.95	16.57	19.69

Rounding to 4 decimal places, use a graphing utility to find an **exponential model** for the data. Then use the exponential model to predict the population in 2025.

A) 30 thousand

B) 47 thousand

C) 72 thousand

D) 110 thousand

38A. Professor Alexander wanted to find a linear model that relates the number of hours a student plays video games each week, x, to their cumulative GPA, y. He obtained a random sample of 10 full-time students at his college and asked each student to disclose the number of hours spent playing video games and the student's GPA.

Hours x	0	0	2	3	3	5	8	8	10	12
GPA y	3.49	3.05	3.24	2.82	3.19	2.78	2.31	2.54	2.03	2.51

Rounding to 2 decimal places, use a graphing utility to find the line of best fit relating x and y.

38B. The marketing manager at Levi-Strauss wishes to find a linear function that relates the demand, y, for men's jeans and x, the price of the jeans. The following data were obtained based on a price history of the jeans.

Price (\$ per pair) x	20	22	23	23	27	29	30
Demand (Pairs of Jeans sold per Day) y	60	57	56	53	52	49	44

Using a graphing utility, find the line of best fit relating x and y.

A) $y = -1.34x + 86.2$

B) $x = -1.34y + 86.2$

C) $y = 86.2x - 1.34$

D) $x = 86.2y - 1.34$

39A. Solve $5 - \frac{1}{3}x = 7$

39B. Solve $-3 + \frac{2}{5}(x + 1) = 9$

A) $x = 5$

B) $x = 29$

C) $x = -\frac{2}{5}$

D) $x = 14$

40A. Solve $|3 - 2x| + 5 = 3$

40B. Solve $|4 - 3x| - 5 = -4$

A) All real numbers

B) $x = 1$, $x = \frac{5}{3}$

C) $x = 1$, $x = -1$

D) No solution

41A. Solve $x + 1 = \sqrt{3x + 3}$

41B. Solve $x - 2 = \sqrt{21 - 4x} + 2$

A) $x = 5$, $x = -1$

B) $x = 5$

C) $x = -7$, $x = 3$

D) No solution

42A. Solve $\dfrac{3}{x-2} = \dfrac{1}{x-1} + \dfrac{7}{(x-1)(x-2)}$

42B. Solve $\dfrac{4}{x-2} = \dfrac{-3}{x+5} + \dfrac{7}{x^2+3x-10}$

A) $x = 2$, $x = -5$

B) $x = \frac{10}{7}$

C) $x = -1$

D) $x = 7$

43A. Solve $x^2 + 6x = 8$

43B. Solve $(x + 1)(x - 5) = 1$

A) $x = -\sqrt{6}$, $x = \sqrt{6}$

B) $x = 0$, $x = 6$

C) $x = 2 - \sqrt{10}$, $x = 2 + \sqrt{10}$

D) $x = 2 - \sqrt{40}$, $x = 2 + \sqrt{40}$

44A. Solve $2^{x+4} = 15$. Give an exact answer and a 4 decimal place approximation.

44B. Solve $e^{2x} = 7$

A) $x = \dfrac{\ln 7}{2}$

B) $x = \ln\left(\frac{7}{2}\right)$

C) $x = \dfrac{\log 7}{2}$

D) $x = \log\left(\frac{7}{2}\right)$

45A. Solve $\log(4x + 3) = 2$

45B. Solve $\log_2(2x - 4) = 3$

A) $x = \frac{13}{2}$

B) $x = 5$

C) $x = \frac{7}{2}$

D) $x = 6$

46A. Solve $|2x + 1| + 3 \leq 7$

46B. Solve $|x + 3| + 5 < 2$

A) No solution

B) $(-10, -6)$

C) $(-\infty, -10) \cup (-6, \infty)$

D) $(-\infty, \infty)$

47A. Solve $3 - 5x \geq -12$

47B. Solve $1 + 4x < -11$

A) $(-\infty, -3)$

B) $(-3, \infty)$

C) $\left(-\infty, -\frac{5}{2}\right)$

D) $\left(-\frac{5}{2}, \infty\right)$

48A. Solve $|3x + 2| + 3 > 1$

48B. Solve $|x + 1| \geq 10$

A) No solutions

B) $[-11, 9]$

C) $(-\infty, -11] \cup [9, \infty)$

D) $(-\infty, \infty)$

49A. Solve $\dfrac{x-3}{2x+6} < 0$

49B. Solve $\dfrac{x+4}{x^2+1} \geq 0$

A) $(-\infty, -4] \cup (-1, 1)$

B) $[-4, -1] \cup (1, \infty)$

C) $(\infty, -4] \cup (1, \infty)$

D) $[-4, \infty)$

50A. Solve $(x-3)(x^2-16)<0$

50B. Solve $(x+2)^2(x^2+x+5)\geq 0$

A) No Solution

B) $(-\infty,\infty)$

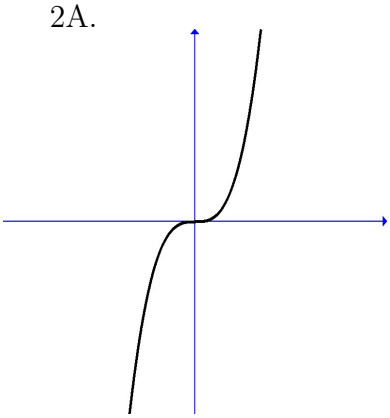
C) $[-2,\infty)$

D) $(-\infty,2]$

Answer Key:

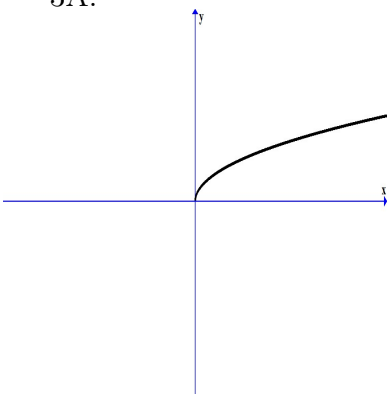
1A. $[-4, \infty)$
1B. A

2A.



2B. B

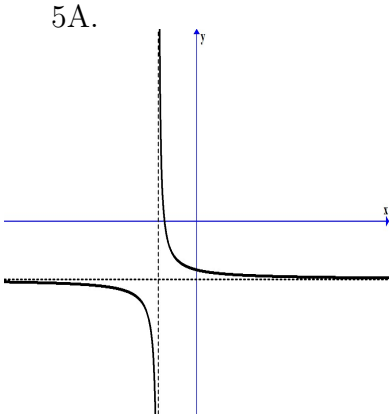
3A.



3B. D

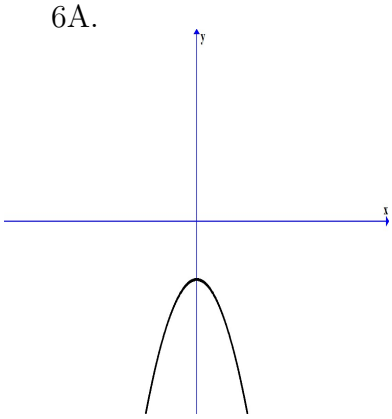
4A. $(3, 4)$
4B. B

5A.



5B. C

6A.



6B. D

7A. Odd
7B. C

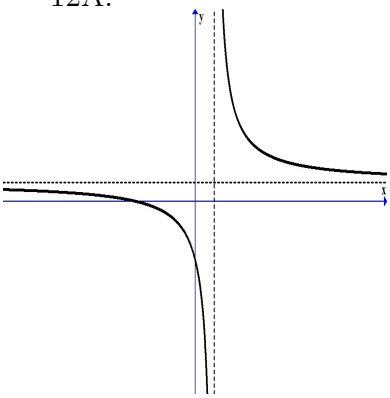
8A. Even
8B. B

9A. $[2, \infty)$
9B. D

10A. $[0, \infty)$
10B. A

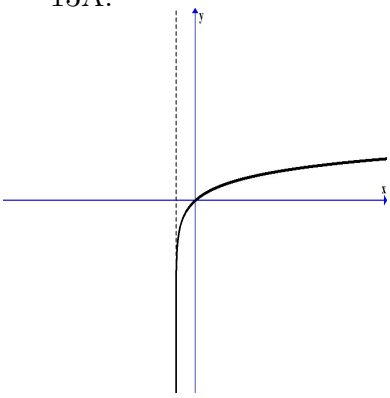
11A. $y = \frac{5}{2}$
11B. D

12A.



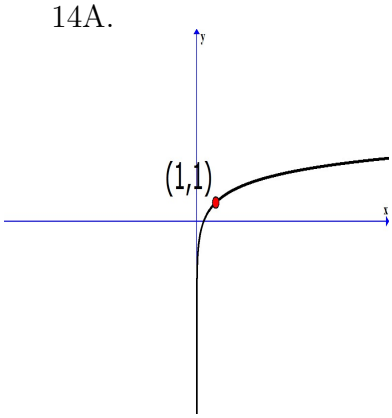
12B. C

13A.



13B. C

14A.



14B. A

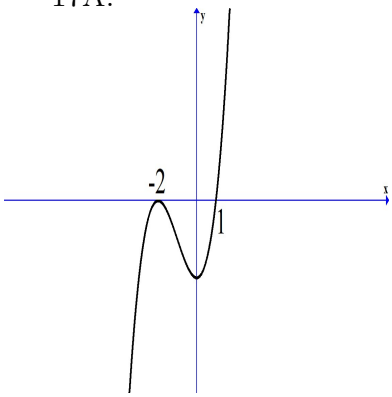
15A. $(-2, 0) \cup (2, \infty)$

15B. C

16A. $(-8, -2) \cup (2, \infty)$

16B. D

17A.



17B. C

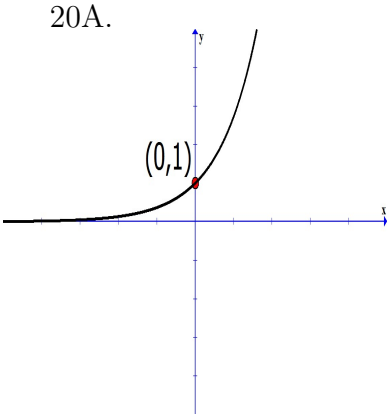
18A. $x + 4,\ x \geq 2$

18B. A

19A. 2

19B. C

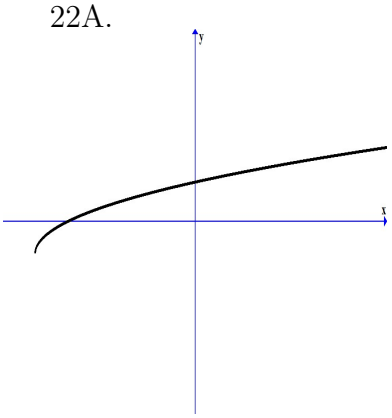
20A.



20B. B

21A. $\{(15, -20), (11, -4), (9, 8)\}$
21B. D

22A.



22B. C

23A. C
23B. A

24A. B
24B. D

25A. $(0, 1) \cup (2, \infty)$
25B. A

26A. $f(x) = -\frac{1}{2}|x + 5|$
26B. A

27A. $(0.67, 1.85)$
27B. B

28A. 27
28B. C

29A. $g^{-1}(x) = (x - 10)^3$
29B. A

30A. $[0, 3)$
30B. D

31A. $f(x) = x^3 - 4x^2 - 9x + 36$
31B. C

32A. $f(x) = (x + 7)(x - \sqrt{6})(x + \sqrt{6})$
32B. A

33A. \$200,000
33B. C

34A. \$13,937.71
34B. B

35A. 0.31
35B. A

36A. $C(x) = 2.75 + 1.20x$
36B. B

37A. 4.72 mg
37B. B

38A. $y = -0.09x + 3.28$
38B. A

39A. $x = -6$
39B. B

40A. No Solution
40B. B

41A. $x = 2,\ x = -1$
41B. B

42A. $x = 4$
42B. C

43A. $x = -3 + \sqrt{17},\ x = -3 - \sqrt{17}$
43B. C

44A. $x = \log_2 15 - 4 \approx -0.0931$
44B. A

45A. $x = \dfrac{97}{4}$
45B. D

46A. $\left[-\frac{5}{2}, \frac{3}{2}\right]$
46B. A

47A. $(-\infty, 3]$
47B. A

48A. $(-\infty, \infty)$
48B. C

49A. $(-3, 3)$
49B. D

50A. $(-\infty, -4) \cup (3, 4)$
50B. B