

Name: Newton, Isaac

Student ID: 8675309

Instructor: J. Brennan

Signature: _____

Note that the 'assessmentpreface.tex' file in the exams archive folder is read and placed here. This is also where student information is included, either to be replaced with information from the master.csv file or as blanks.

Instructions:

1. Any cover page materials, per your departmental standards.

(1) **(2 points)** Which of these is correct?

(a) Wrong.

(b) Wrong.

(c) Correct.

(2) **(2 points)** Which of these is correct?

(a) Wrong.

(b) Wrong.

(c) Wrong.

(d) Wrong.

(e) Wrong.

(f) Wrong.

(g) Correct.

(h) Wrong.

(i) Wrong.

(j) Wrong.

(3) **(2 points)** Which of these is correct?

(a) Wrong.

(b) Wrong.

(c) Correct.

(4) **(2 points)** The least common denominator for $\frac{x}{x+1}$ and $\frac{1}{x-1}$ is

(a) $x+1$

(b) $x(x+1)$

(c) $x(x+1)(x-1)$

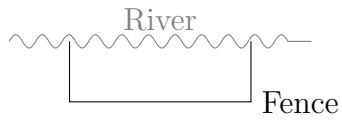
(d) $(x+1)(x-1)$

(5) **(12 points)** 1.59, 1.954

(6) **(12 points)** $a = 7$

(7) **(12 points)** 1867152 is awkward to read; 1,867,152 is missing a space, 1,867,152 is nice, 1, 867, 152 adds spacing that makes it confusing to read.

- (8) **(5 points)** You have 244 feet of fencing to enclose a rectangular plot that borders on a river. If you do not fence along the side of the river, find the **dimensions** of the plot that will maximize the area.



- (9) **(6 points)** Divide the following using **long division**. Your final answer should be in the form

$$\text{Quotient} + \frac{\text{Remainder}}{\text{Divisor}}.$$

$$(3x^2 + 18x - 10) \div (x + 7)$$

- (10) **(5 points)** In April of this year, Greenfield received 14.60 inches of rain. This was 18% less than the amount recorded in April of 2010. How much rain did Greenfield receive in April 2010? Set up an algebraic equation to represent the situation and solve. Show units.

- (11) Solve each and include units in your answer. Use the formula: $s = \sqrt{21 \cdot d}$ where s is the speed of the car in miles per hour prior to braking, and d is the stopping distance or length of the skid mark, in feet.

Deone is driving down Bumpkin Road going 50 miles per hour when a fawn suddenly appears 80 feet away in the middle of the road.

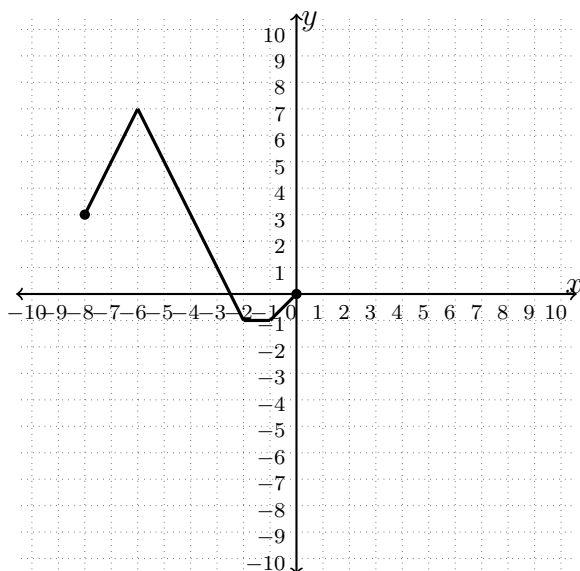
- (a) **(5 points)** If she slams on her brakes now, how far will her car skid?

- (b) **(2 points)** Will she avoid hitting the fawn if it freezes in place? Why or why not? Fully explain your reason.

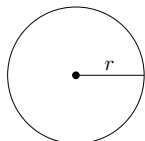
- (12) **(6 points)** Solve the system using either substitution or elimination. Write your answer as an ordered pair, if possible.

$$\begin{cases} 2x + y = 7 \\ -5x + 5y = 5 \end{cases}$$

- (13) Given the graph of $f(x)$ below, determine the following. **Assume endpoints are included.**



- (a) **(2 points)** $f(-4)$
- (b) **(2 points)** The domain.
- (c) **(2 points)** The range.
- (14) Suppose the following circle has radius $r = 3$. What is the circumference of the circle?



Name: Ramanujan, Srinivasa

Student ID: 8675310

Instructor: J. Brennan

Signature: _____

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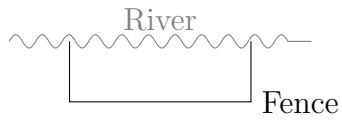
- (1) **(2 points)** Which of these is correct?
- (a) Wrong. (b) Wrong. (c) Correct.
- (2) **(2 points)** Which of these isn't mentally problematic?
- (a) None of the below.
(b) $a \neq a$
(c) I've built a set that contains itself.
(d) All of the above.
- (3) **(2 points)** Which of these is correct?
- (a) Wrong. (b) Wrong. (c) Wrong. (d) Wrong.
(e) Wrong. (f) Correct. (g) Wrong. (h) Wrong.
(i) Wrong. (j) Wrong.
- (4) **(2 points)** The least common denominator for $\frac{x}{x+1}$ and $\frac{1}{x-1}$ is
- (a) $x(x+1)$ (b) $x(x+1)(x-1)$
(c) $x+1$ (d) $(x+1)(x-1)$

(5) **(12 points)** General question content.

(6) **(12 points)** $3x^2 - x = xyz^3$

(7) **(12 points)** 1.59, 1.123

- (8) **(5 points)** You have 304 feet of fencing to enclose a rectangular plot that borders on a river. If you do not fence along the side of the river, what is the largest area that can be enclosed?



- (9) **(6 points)** Divide the following using **long division**. Your final answer should be in the form

$$\text{Quotient} + \frac{\text{Remainder}}{\text{Divisor}}.$$

$$(4x^2 + 11x - 7) \div (x + 4)$$

- (10) **(5 points)** Elridge Furniture discounts furniture 13% to customers paying cash. Jennifer paid \$1580.37 cash for a roll-top desk. What was the original price of the desk? (Round to the nearest cent.) Set up an algebraic equation to represent the situation and solve. Show units.

- (11) Solve each and include units in your answer. Use the formula: $s = \sqrt{27 \cdot d}$ where s is the speed of the car in miles per hour prior to braking, and d is the stopping distance or length of the skid mark, in feet.

Deone is driving down Bumpkin Road going 35 miles per hour when a fawn suddenly appears 65 feet away in the middle of the road.

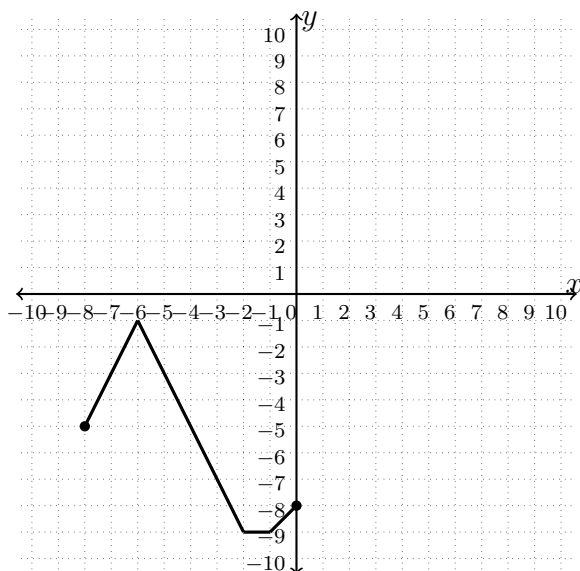
- (a) **(5 points)** If she slams on her brakes now, how far will her car skid?

- (b) **(2 points)** Will she avoid hitting the fawn if it freezes in place? Why or why not? Fully explain your reason.

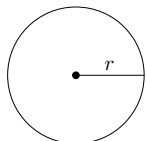
- (12) **(6 points)** Solve the system using either substitution or elimination. Write your answer as an ordered pair, if possible.

$$\begin{cases} -2x + y = 6 \\ -4x + 3y = 12 \end{cases}$$

- (13) Given the graph of $f(x)$ below, determine the following. **Assume endpoints are included.**



- (a) **(2 points)** $f(-5)$
- (b) **(2 points)** The domain.
- (c) **(2 points)** The range.
- (14) Suppose the following circle has radius $r = 5$. What is the circumference of the circle?



Name: Turing, Alan

Student ID: 8675311

Instructor: I. Crump

Signature: _____

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(1) **(2 points)** Which of these is correct?

- | | | | |
|------------|------------|------------|--------------|
| (a) Wrong. | (b) Wrong. | (c) Wrong. | (d) Wrong. |
| (e) Wrong. | (f) Wrong. | (g) Wrong. | (h) Correct. |
| (i) Wrong. | (j) Wrong. | | |

(2) **(2 points)** Which of these is correct?

- | | | | |
|--------------|------------|------------|------------|
| (a) Wrong. | (b) Wrong. | (c) Wrong. | (d) Wrong. |
| (e) Correct. | (f) Wrong. | (g) Wrong. | (h) Wrong. |
| (i) Wrong. | (j) Wrong. | | |

(3) **(2 points)** Which of these isn't mentally problematic?

- (a) None of the below.
- (b) I've built a set that contains itself.
- (c) $a \neq a$
- (d) All of the above.

(4) **(2 points)** The least common denominator for $\frac{x}{x+1}$ and $\frac{1}{x(x-1)}$ is

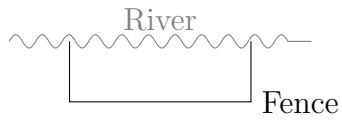
- | | |
|-------------------|------------------|
| (a) $x(x+1)(x-1)$ | (b) $(x+1)(x-1)$ |
| (c) $x+1$ | (d) $x(x+1)$ |

(5) **(12 points)** Two decimal places: 10.10. Five: 10.10000.

(6) **(12 points)** $a = 7$

(7) **(12 points)** 1.61, 1.356

- (8) **(5 points)** You have 288 feet of fencing to enclose a rectangular plot that borders on a river. If you do not fence along the side of the river, find the **dimensions** of the plot that will maximize the area.



- (9) **(6 points)** Divide the following using **long division**. Your final answer should be in the form

$$\text{Quotient} + \frac{\text{Remainder}}{\text{Divisor}}.$$

$$(4x^2 + 22x - 30) \div (x + 7)$$

- (10) **(5 points)** In April of this year, Greenfield received 10.95 inches of rain. This was 12% less than the amount recorded in April of 2010. How much rain did Greenfield receive in April 2010? Set up an algebraic equation to represent the situation and solve. Show units.

- (11) Solve each and include units in your answer. Use the formula: $s = \sqrt{24 \cdot d}$ where s is the speed of the car in miles per hour prior to braking, and d is the stopping distance or length of the skid mark, in feet.

Deone is driving down Bumpkin Road going 55 miles per hour when a fawn suddenly appears 80 feet away in the middle of the road.

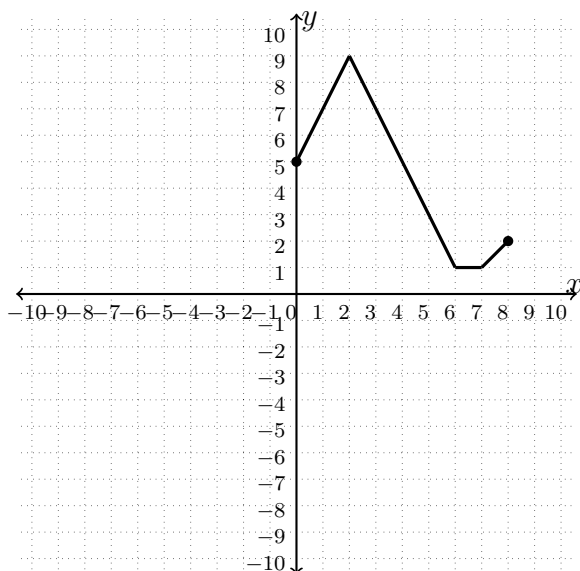
- (a) **(5 points)** If she slams on her brakes now, how far will her car skid?

- (b) **(2 points)** Will she avoid hitting the fawn if it freezes in place? Why or why not? Fully explain your reason.

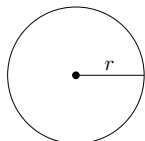
- (12) **(6 points)** Solve the system using either substitution or elimination. Write your answer as an ordered pair, if possible.

$$\begin{cases} 2x + 4y = -18 \\ x - 3y = 1 \end{cases}$$

- (13) Given the graph of $f(x)$ below, determine the following. **Assume endpoints are included.**



- (a) **(2 points)** $f(6)$
- (b) **(2 points)** The domain.
- (c) **(2 points)** The range.
- (14) Suppose the following circle has radius $r = 3$. What is the circumference of the circle?



Name: Von Neumann, John

Student ID: 8675312

Instructor: J. Niknejad

Signature: _____

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- (2) **(2 points)** Which of these isn't mentally problematic?
- (a) None of the below.
(b) I've built a set that contains itself.
(c) $a \neq a$
(d) All of the above.

- (3) **(2 points)** Which of these is correct?
- (a) Wrong. (b) Correct. (c) Wrong.

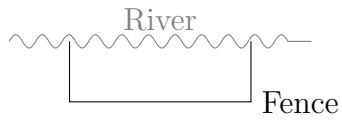
- (4) **(2 points)** The least common denominator for $\frac{x}{x+1}$ and $\frac{1}{x-1}$ is
- (a) $x(x+1)$ (b) $(x+1)(x-1)$
(c) $x+1$ (d) $x(x+1)(x-1)$

(5) **(12 points)** 1.09, 1.557

(6) **(12 points)** $[2, 5, 6]$ contains 2, 5, and 6.

(7) **(12 points)** $\frac{1 + \sqrt{8}}{2} = \frac{1}{2} + \sqrt{2}$

- (8) **(5 points)** You have 248 feet of fencing to enclose a rectangular plot that borders on a river. If you do not fence along the side of the river, find the **dimensions** of the plot that will maximize the area.



- (9) **(6 points)** Divide the following using **long division**. Your final answer should be in the form

$$\text{Quotient} + \frac{\text{Remainder}}{\text{Divisor}}.$$

$$(3x^2 + 7x - 32) \div (x + 5)$$

- (10) **(5 points)** In April of this year, Greenfield received 11.11 inches of rain. This was 14% less than the amount recorded in April of 2010. How much rain did Greenfield receive in April 2010? Set up an algebraic equation to represent the situation and solve. Show units.

- (11) Solve each and include units in your answer. Use the formula: $s = \sqrt{30 \cdot d}$ where s is the speed of the car in miles per hour prior to braking, and d is the stopping distance or length of the skid mark, in feet.

Deone is driving down Bumpkin Road going 50 miles per hour when a fawn suddenly appears 75 feet away in the middle of the road.

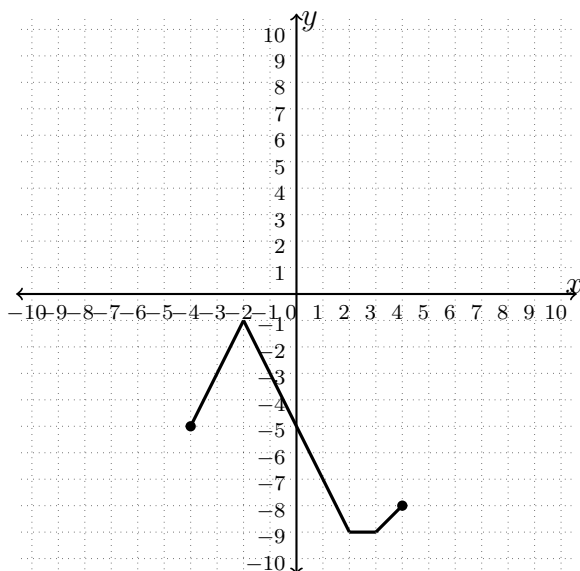
- (a) **(5 points)** If she slams on her brakes now, how far will her car skid?

- (b) **(2 points)** Will she avoid hitting the fawn if it freezes in place? Why or why not? Fully explain your reason.

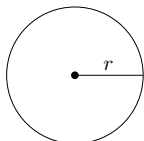
- (12) **(6 points)** Solve the system using either substitution or elimination. Write your answer as an ordered pair, if possible.

$$\begin{cases} x - 5y = -14 \\ -5x - 5y = 10 \end{cases}$$

- (13) Given the graph of $f(x)$ below, determine the following. **Assume endpoints are included.**



- (a) **(2 points)** $f(1)$
- (b) **(2 points)** The domain.
- (c) **(2 points)** The range.
- (14) Suppose the following circle has radius $r = 5$. What is the circumference of the circle?



Name: Euler, Leonhard

Student ID: 8675313

Instructor: J. Niknejad

Signature: _____

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(1) **(2 points)** Which of these is correct?

(a) Wrong.

(b) Wrong.

(c) Wrong.

(d) Wrong.

(e) Wrong.

(f) Wrong.

(g) Correct.

(h) Wrong.

(i) Wrong.

(j) Wrong.

(2) **(2 points)** Which of these is correct?

(a) Wrong.

(b) Correct.

(c) Wrong.

(d) Wrong.

(e) Wrong.

(f) Wrong.

(g) Wrong.

(h) Wrong.

(i) Wrong.

(j) Wrong.

(3) **(2 points)** Which of these is correct?

(a) Correct.

(b) Wrong.

(c) Wrong.

(4) **(2 points)** The least common denominator for $\frac{x}{x+1}$ and $\frac{1}{x(x-1)}$ is

(a) $x(x+1)(x-1)$

(b) $(x+1)(x-1)$

(c) $x(x+1)$

(d) $x+1$

(5) **(12 points)**

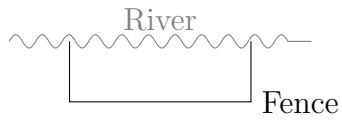
- (a) If I add 4 to $y = x^2$, the graph shifts up.
- (b) $y = 4(4^x)$
- (c) $y = \frac{1}{x}$

(6) **(12 points)**

- (a) $1 + 7 = 8$
- (b) $1 - 7 = -6$
- (c) $7^1 = 7$
- (d) $1 \times 100 = 100$
- (e) $\log_7(1) = 0.0$
- (f) 119 can be factored into two primes.

(7) **(12 points)** $a = 7$

- (8) **(5 points)** You have 264 feet of fencing to enclose a rectangular plot that borders on a river. If you do not fence along the side of the river, what is the largest area that can be enclosed?



- (9) **(6 points)** Divide the following using **long division**. Your final answer should be in the form

$$\text{Quotient} + \frac{\text{Remainder}}{\text{Divisor}}.$$

$$(4x^2 + 18x - 26) \div (x + 6)$$

- (10) **(5 points)** In April of this year, Greenfield received 13.34 inches of rain. This was 14% less than the amount recorded in April of 2010. How much rain did Greenfield receive in April 2010? Set up an algebraic equation to represent the situation and solve. Show units.

- (11) Solve each and include units in your answer. Use the formula: $s = \sqrt{21 \cdot d}$ where s is the speed of the car in miles per hour prior to braking, and d is the stopping distance or length of the skid mark, in feet.

Deone is driving down Bumpkin Road going 25 miles per hour when a fawn suddenly appears 65 feet away in the middle of the road.

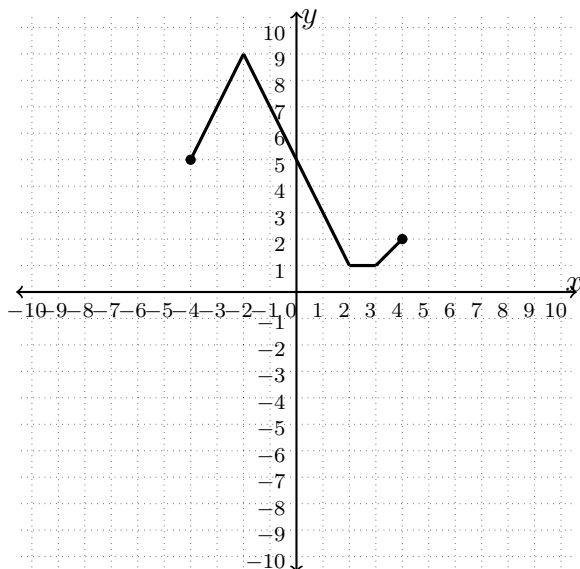
- (a) **(5 points)** If she slams on her brakes now, how far will her car skid?

- (b) **(2 points)** Will she avoid hitting the fawn if it freezes in place? Why or why not? Fully explain your reason.

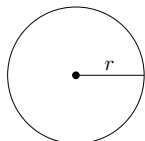
- (12) **(6 points)** Solve the system using either substitution or elimination. Write your answer as an ordered pair, if possible.

$$\begin{cases} -2x - 5y = -35 \\ 5x + y = 30 \end{cases}$$

- (13) Given the graph of $f(x)$ below, determine the following. **Assume endpoints are included.**



- (a) **(2 points)** $f(1)$
- (b) **(2 points)** The domain.
- (c) **(2 points)** The range.
- (14) Suppose the following circle has radius $r = 5$. What is the circumference of the circle?



Name: Leibniz, Gottfried

Student ID: 8675314

Instructor: I. Crump

Signature: _____

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(g) Wrong.

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(j) Wrong.

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(4) **(2 points)** The least common denominator for $\frac{x}{x+1}$ and $\frac{1}{x-1}$ is

(a) $x+1$

(b) $(x+1)(x-1)$

(c) $x(x+1)(x-1)$

(d) $x(x+1)$

(5) **(12 points)**

(a) If I add -5 to $y = x^2$, the graph shifts down.

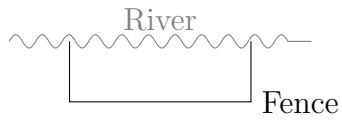
(b) $y = 4^x$

(c) $y = x$

(6) **(12 points)** $\frac{12}{-8} = \frac{-3}{2}$ or $\frac{-3}{2}$

(7) **(12 points)** $0.12 < 0.12346$

- (8) **(5 points)** You have 208 feet of fencing to enclose a rectangular plot that borders on a river. If you do not fence along the side of the river, what is the largest area that can be enclosed?



- (9) **(6 points)** Divide the following using **long division**. Your final answer should be in the form

$$\text{Quotient} + \frac{\text{Remainder}}{\text{Divisor}}.$$

$$(3x^2 + 11x - 34) \div (x + 6)$$

- (10) **(5 points)** A roll-top desk in Elridge Furniture has been marked up 14% and is being sold for \$1488.25. How much did Elridge Furniture pay the distributor for the desk? (Round to the nearest cent.) Set up an algebraic equation to represent the situation and solve. Show units.

- (11) Solve each and include units in your answer. Use the formula: $s = \sqrt{30 \cdot d}$ where s is the speed of the car in miles per hour prior to braking, and d is the stopping distance or length of the skid mark, in feet.

Deone is driving down Bumpkin Road going 40 miles per hour when a fawn suddenly appears 80 feet away in the middle of the road.

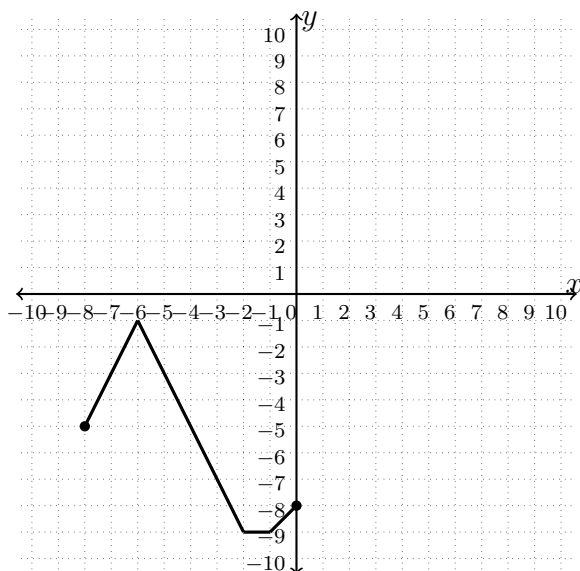
- (a) **(5 points)** If she slams on her brakes now, how far will her car skid?

- (b) **(2 points)** Will she avoid hitting the fawn if it freezes in place? Why or why not? Fully explain your reason.

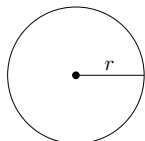
- (12) **(6 points)** Solve the system using either substitution or elimination. Write your answer as an ordered pair, if possible.

$$\begin{cases} 3x + y = -4 \\ -4x + 5y = -1 \end{cases}$$

- (13) Given the graph of $f(x)$ below, determine the following. **Assume endpoints are included.**



- (a) **(2 points)** $f(-5)$
- (b) **(2 points)** The domain.
- (c) **(2 points)** The range.
- (14) Suppose the following circle has radius $r = 2$. What is the circumference of the circle?



Name: Babbage, Charles

Student ID: 8675315

Instructor: _____

Signature: _____

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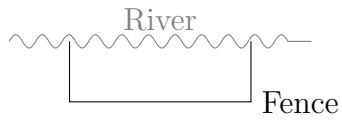
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- (a) None of the below.
(b) $a \neq a$
(c) I've built a set that contains itself.
(d) All of the above.
- (3) **(2 points)** Which of these is correct?
- (a) Wrong. (b) Wrong. (c) Wrong. (d) Wrong.
(e) Wrong. (f) Correct. (g) Wrong. (h) Wrong.
(i) Wrong. (j) Wrong.
- (4) **(2 points)** The least common denominator for $\frac{x}{x+1}$ and $\frac{1}{x(x-1)}$ is
- (a) $x+1$ (b) $x(x+1)$
(c) $(x+1)(x-1)$ (d) $x(x+1)(x-1)$

(5) **(12 points)** Two decimal places: 10.10. Five: 10.10000.

(6) **(12 points)** $0.12 < 0.12346$

(7) **(12 points)** 1578568 is awkward to read; 1,578,568 is missing a space, 1,578,568 is nice, 1, 578, 568 adds spacing that makes it confusing to read.

- (8) **(5 points)** You have 244 feet of fencing to enclose a rectangular plot that borders on a river. If you do not fence along the side of the river, find the **dimensions** of the plot that will maximize the area.



- (9) **(6 points)** Divide the following using **long division**. Your final answer should be in the form

$$\text{Quotient} + \frac{\text{Remainder}}{\text{Divisor}}.$$

$$(2x^2 + 8x - 28) \div (x + 7)$$

- (10) **(5 points)** Elridge Furniture discounts furniture 15% to customers paying cash. Jennifer paid \$1475.98 cash for a roll-top desk. What was the original price of the desk? (Round to the nearest cent.) Set up an algebraic equation to represent the situation and solve. Show units.

- (11) Solve each and include units in your answer. Use the formula: $s = \sqrt{30 \cdot d}$ where s is the speed of the car in miles per hour prior to braking, and d is the stopping distance or length of the skid mark, in feet.

Deone is driving down Bumpkin Road going 40 miles per hour when a fawn suddenly appears 75 feet away in the middle of the road.

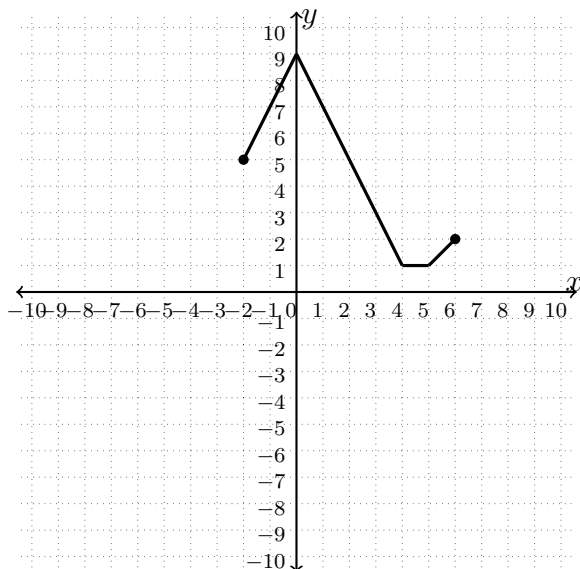
- (a) **(5 points)** If she slams on her brakes now, how far will her car skid?

- (b) **(2 points)** Will she avoid hitting the fawn if it freezes in place? Why or why not? Fully explain your reason.

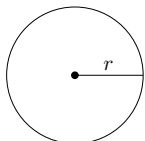
- (12) **(6 points)** Solve the system using either substitution or elimination. Write your answer as an ordered pair, if possible.

$$\begin{cases} -3x + 4y = -7 \\ x - 3y = 9 \end{cases}$$

- (13) Given the graph of $f(x)$ below, determine the following. **Assume endpoints are included.**



- (a) **(2 points)** $f(1)$
- (b) **(2 points)** The domain.
- (c) **(2 points)** The range.
- (14) Suppose the following circle has radius $r = 4$. What is the circumference of the circle?



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Student ID: _____

Instructor: _____

Signature: _____

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Instructions:

1. Any cover page materials, per your departmental standards.

(1) **(2 points)** Which of these is correct?

- | | | | |
|------------|------------|------------|--------------|
| (a) Wrong. | (b) Wrong. | (c) Wrong. | (d) Correct. |
| (e) Wrong. | (f) Wrong. | (g) Wrong. | (h) Wrong. |
| (i) Wrong. | (j) Wrong. | | |

(2) **(2 points)** Which of these is correct?

- | | | |
|--------------|------------|------------|
| (a) Correct. | (b) Wrong. | (c) Wrong. |
|--------------|------------|------------|

(3) **(2 points)** Which of these isn't mentally problematic?

- (a) None of the below.
- (b) $a \neq a$
- (c) I've built a set that contains itself.
- (d) All of the above.

(4) **(2 points)** The least common denominator for $\frac{x}{x+1}$ and $\frac{1}{x(x-1)}$ is

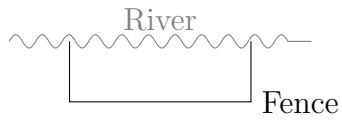
- | | |
|--------------|-------------------|
| (a) $x(x+1)$ | (b) $(x+1)(x-1)$ |
| (c) $x+1$ | (d) $x(x+1)(x-1)$ |

(5) **(12 points)** $\frac{4}{-2} = -2$ or -2

(6) **(12 points)** $-4x + 10y$

(7) **(12 points)** $3, 4, [1, 2, 4, 5]$

- (8) **(5 points)** You have 308 feet of fencing to enclose a rectangular plot that borders on a river. If you do not fence along the side of the river, what is the largest area that can be enclosed?



- (9) **(6 points)** Divide the following using **long division**. Your final answer should be in the form

$$\text{Quotient} + \frac{\text{Remainder}}{\text{Divisor}}.$$

$$(4x^2 + 16x - 36) \div (x + 6)$$

- (10) **(5 points)** In April of this year, Greenfield received 12.61 inches of rain. This was 13% less than the amount recorded in April of 2010. How much rain did Greenfield receive in April 2010? Set up an algebraic equation to represent the situation and solve. Show units.

- (11) Solve each and include units in your answer. Use the formula: $s = \sqrt{30 \cdot d}$ where s is the speed of the car in miles per hour prior to braking, and d is the stopping distance or length of the skid mark, in feet.

Deone is driving down Bumpkin Road going 50 miles per hour when a fawn suddenly appears 60 feet away in the middle of the road.

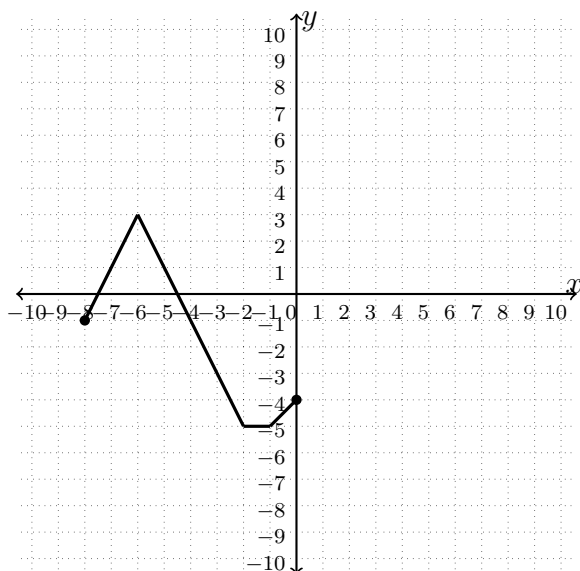
- (a) **(5 points)** If she slams on her brakes now, how far will her car skid?

- (b) **(2 points)** Will she avoid hitting the fawn if it freezes in place? Why or why not? Fully explain your reason.

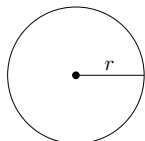
- (12) **(6 points)** Solve the system using either substitution or elimination. Write your answer as an ordered pair, if possible.

$$\begin{cases} x + 5y = -18 \\ 5x - 5y = 0 \end{cases}$$

- (13) Given the graph of $f(x)$ below, determine the following. **Assume endpoints are included.**



- (a) **(2 points)** $f(-3)$
- (b) **(2 points)** The domain.
- (c) **(2 points)** The range.
- (14) Suppose the following circle has radius $r = 5$. What is the circumference of the circle?



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Signature: _____

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Instructions:

1. Any cover page materials, per your departmental standards.

(1) **(2 points)** Which of these is correct?

(a) Wrong.

(b) Wrong.

(c) Correct.

(d) Wrong.

(e) Wrong.

(f) Wrong.

(g) Wrong.

(h) Wrong.

(i) Wrong.

(j) Wrong.

(2) **(2 points)** Which of these is correct?

(a) Wrong.

(b) Wrong.

(c) Wrong.

(d) Wrong.

(e) Wrong.

(f) Correct.

(g) Wrong.

(h) Wrong.

(i) Wrong.

(j) Wrong.

(3) **(2 points)** Which of these is correct?

(a) Wrong.

(b) Wrong.

(c) Wrong.

(d) Wrong.

(e) Wrong.

(f) Wrong.

(g) Wrong.

(h) Wrong.

(i) Wrong.

(j) Correct.

(4) **(2 points)** The least common denominator for $\frac{x}{x+1}$ and $\frac{1}{x-1}$ is

(a) $x(x+1)$

(b) $(x+1)(x-1)$

(c) $x(x+1)(x-1)$

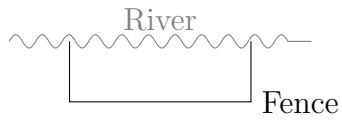
(d) $x+1$

- (5) **(12 points)** 1117192 is awkward to read; 1,117,192 is missing a space, 1,117,192 is nice, 1, 117, 192 adds spacing that makes it confusing to read.

- (6) **(12 points)** $3x^2 - x = xyz^3$

- (7) **(12 points)** Two decimal places: 10.10. Five: 10.10000.

- (8) **(5 points)** You have 228 feet of fencing to enclose a rectangular plot that borders on a river. If you do not fence along the side of the river, what is the largest area that can be enclosed?



- (9) **(6 points)** Divide the following using **long division**. Your final answer should be in the form

$$\text{Quotient} + \frac{\text{Remainder}}{\text{Divisor}}.$$

$$(4x^2 + 16x - 39) \div (x + 6)$$

- (10) **(5 points)** In April of this year, Greenfield received 11.73 inches of rain. This was 13% less than the amount recorded in April of 2010. How much rain did Greenfield receive in April 2010? Set up an algebraic equation to represent the situation and solve. Show units.

- (11) Solve each and include units in your answer. Use the formula: $s = \sqrt{27 \cdot d}$ where s is the speed of the car in miles per hour prior to braking, and d is the stopping distance or length of the skid mark, in feet.

Deone is driving down Bumpkin Road going 35 miles per hour when a fawn suddenly appears 60 feet away in the middle of the road.

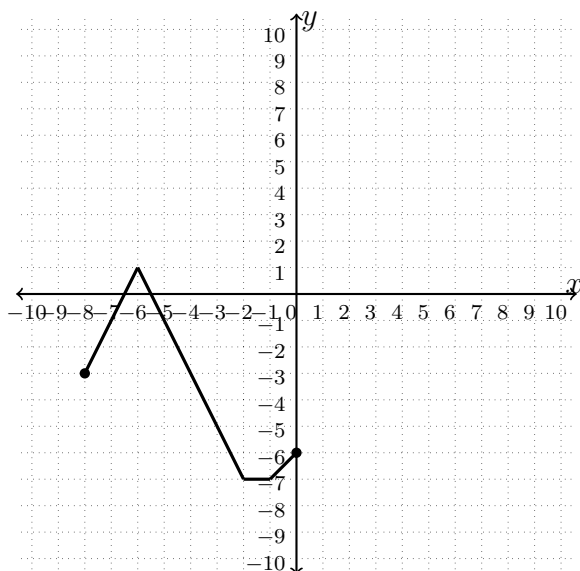
- (a) **(5 points)** If she slams on her brakes now, how far will her car skid?

- (b) **(2 points)** Will she avoid hitting the fawn if it freezes in place? Why or why not? Fully explain your reason.

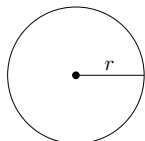
- (12) **(6 points)** Solve the system using either substitution or elimination. Write your answer as an ordered pair, if possible.

$$\begin{cases} x - 4y = 0 \\ -4x - 5y = -21 \end{cases}$$

- (13) Given the graph of $f(x)$ below, determine the following. **Assume endpoints are included.**



- (a) **(2 points)** $f(-4)$
- (b) **(2 points)** The domain.
- (c) **(2 points)** The range.
- (14) Suppose the following circle has radius $r = 4$. What is the circumference of the circle?



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Instructions:

1. Any cover page materials, per your departmental standards.

(1) **(2 points)** Which of these is correct?

(a) Wrong.

(b) Wrong.

(c) Wrong.

(d) Wrong.

(e) Wrong.

(f) Wrong.

(g) Wrong.

(h) Correct.

(i) Wrong.

(j) Wrong.

(2) **(2 points)** Which of these is correct?

(a) Wrong.

(b) Wrong.

(c) Wrong.

(d) Wrong.

(e) Wrong.

(f) Wrong.

(g) Wrong.

(h) Correct.

(i) Wrong.

(j) Wrong.

(3) **(2 points)** Which of these is correct?

(a) Correct.

(b) Wrong.

(c) Wrong.

(4) **(2 points)** The least common denominator for $\frac{x}{x+1}$ and $\frac{1}{x(x-1)}$ is

(a) $x(x+1)$

(b) $x(x+1)(x-1)$

(c) $x+1$

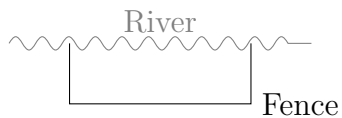
(d) $(x+1)(x-1)$

(5) **(12 points)** Two decimal places: 10.10. Five: 10.10000.

(6) **(12 points)** $5 \neq 4$

(7) **(12 points)** $a = 7$

- (8) **(5 points)** You have 208 feet of fencing to enclose a rectangular plot that borders on a river. If you do not fence along the side of the river, find the **dimensions** of the plot that will maximize the area.



- (9) **(6 points)** Divide the following using **long division**. Your final answer should be in the form

$$\text{Quotient} + \frac{\text{Remainder}}{\text{Divisor}}.$$

$$(4x^2 + 20x - 46) \div (x + 7)$$

- (10) **(5 points)** A roll-top desk in Elridge Furniture has been marked up 15% and is being sold for \$1968.68. How much did Elridge Furniture pay the distributor for the desk? (Round to the nearest cent.) Set up an algebraic equation to represent the situation and solve. Show units.

- (11) Solve each and include units in your answer. Use the formula: $s = \sqrt{24 \cdot d}$ where s is the speed of the car in miles per hour prior to braking, and d is the stopping distance or length of the skid mark, in feet.

Deone is driving down Bumpkin Road going 25 miles per hour when a fawn suddenly appears 55 feet away in the middle of the road.

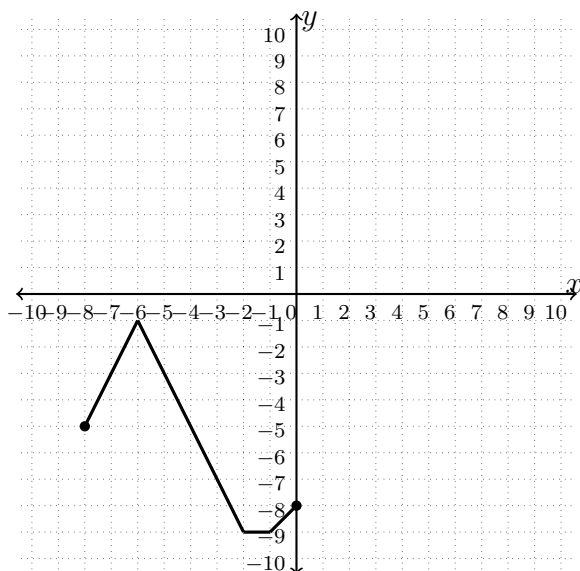
- (a) **(5 points)** If she slams on her brakes now, how far will her car skid?

- (b) **(2 points)** Will she avoid hitting the fawn if it freezes in place? Why or why not? Fully explain your reason.

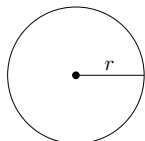
- (12) **(6 points)** Solve the system using either substitution or elimination. Write your answer as an ordered pair, if possible.

$$\begin{cases} 3x + y = -8 \\ -4x + 5y = -21 \end{cases}$$

- (13) Given the graph of $f(x)$ below, determine the following. **Assume endpoints are included.**



- (a) **(2 points)** $f(-5)$
- (b) **(2 points)** The domain.
- (c) **(2 points)** The range.
- (14) Suppose the following circle has radius $r = 2$. What is the circumference of the circle?



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Student ID: _____

Instructor: _____

Signature: _____

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Instructions:

1. Any cover page materials, per your departmental standards.

- (1) **(2 points)** Which of these is correct?
- (a) Wrong. (b) Correct. (c) Wrong.

- (2) **(2 points)** Which of these isn't mentally problematic?
- (a) None of the below.
(b) I've built a set that contains itself.
(c) $a \neq a$
(d) All of the above.

- (3) **(2 points)** Which of these is correct?
- (a) Wrong. (b) Wrong. (c) Correct.

- (4) **(2 points)** The least common denominator for $\frac{x}{x+1}$ and $\frac{1}{x-1}$ is
- (a) $x+1$ (b) $x(x+1)(x-1)$
(c) $x(x+1)$ (d) $(x+1)(x-1)$

(5) **(12 points)** Any preamble.

(a) A first part.

(b) A second part.

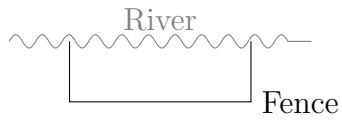
(6) **(12 points)** Any preamble.

(a) A first part.

(b) A second part.

(7) **(12 points)** $3x^2 - x = xyz^3$

- (8) **(5 points)** You have 256 feet of fencing to enclose a rectangular plot that borders on a river. If you do not fence along the side of the river, find the **dimensions** of the plot that will maximize the area.



- (9) **(6 points)** Divide the following using **long division**. Your final answer should be in the form

$$\text{Quotient} + \frac{\text{Remainder}}{\text{Divisor}}.$$

$$(3x^2 + 7x - 29) \div (x + 5)$$

- (10) **(5 points)** A roll-top desk in Elridge Furniture has been marked up 17% and is being sold for \$1614.25. How much did Elridge Furniture pay the distributor for the desk? (Round to the nearest cent.) Set up an algebraic equation to represent the situation and solve. Show units.

- (11) Solve each and include units in your answer. Use the formula: $s = \sqrt{27 \cdot d}$ where s is the speed of the car in miles per hour prior to braking, and d is the stopping distance or length of the skid mark, in feet.

Deone is driving down Bumpkin Road going 40 miles per hour when a fawn suddenly appears 80 feet away in the middle of the road.

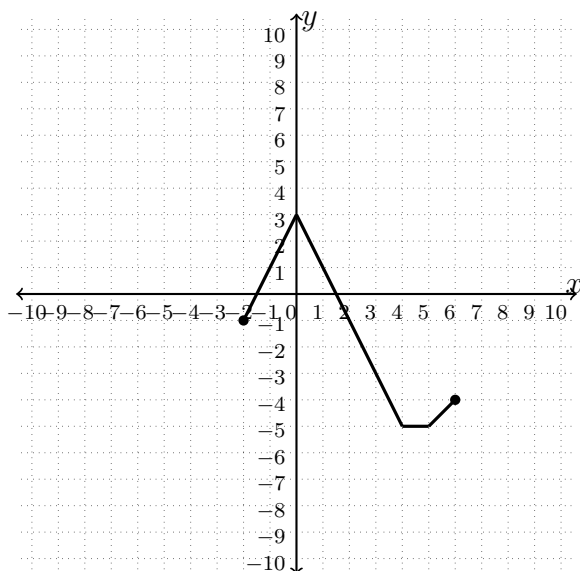
- (a) **(5 points)** If she slams on her brakes now, how far will her car skid?

- (b) **(2 points)** Will she avoid hitting the fawn if it freezes in place? Why or why not? Fully explain your reason.

- (12) **(6 points)** Solve the system using either substitution or elimination. Write your answer as an ordered pair, if possible.

$$\begin{cases} 3x - 5y = -30 \\ 5x + y = -22 \end{cases}$$

- (13) Given the graph of $f(x)$ below, determine the following. **Assume endpoints are included.**



- (a) **(2 points)** $f(3)$
- (b) **(2 points)** The domain.
- (c) **(2 points)** The range.
- (14) Suppose the following circle has radius $r = 5$. What is the circumference of the circle?

