Name: Newton, Isaac

Student ID: 8675309

Instructor: J. Brennan

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) Wrong. (b) Correct. (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

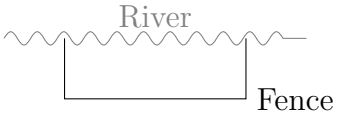
(a) $x(x+1)$ (b) $x(x+1)(x-1)$
(c) $(x+1)(x-1)$ (d) $x+1$

(5) **(12 points)** $a = 7$

(6) **(12 points)** 1,000,000.12345$\neq$ 1,000,000.1

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

(8) **(5 points)** You have 300 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

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

$(4x^2 + 16x - 9) \div (x + 5)$

(10) **(5 points)** In April of this year, Greenfield received 10.63 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 35 miles per hour when a fawn suddenly appears 80 feet away in the middle of the road.

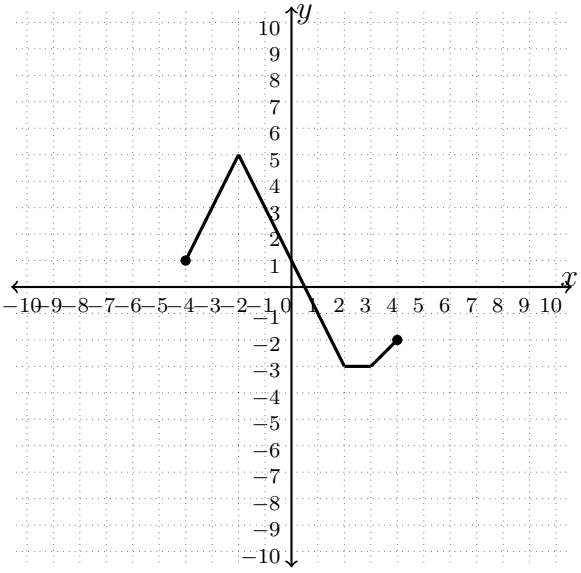
(a) **(5 points)** If she slams on her brakes now, how far will her car skid?

(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.

$$\begin{cases} 3x - 5y = 17 \\ 4x + y = 15 \end{cases}$$

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

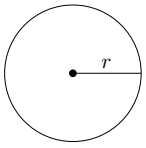


(a) **(2 points)** $f(-2)$

(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?



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) Correct. (c) Wrong.

(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) Wrong. (g) Correct. (h) Wrong.
(i) Wrong. (j) Wrong.

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

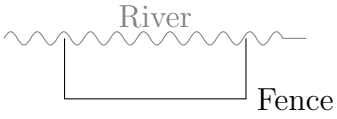
(a) $x+1$ (b) $(x+1)(x-1)$
(c) $x(x+1)(x-1)$ (d) $x(x+1)$

(5) **(12 points)** $a = 7$

(6) **(12 points)** $[3, 7, 7]$ contains $3, 7$, and 7.

(7) **(12 points)** I successfully chose then number -2 at random.

(8) **(5 points)** You have 272 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

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

$(4x^2 + 17x - 31) \div (x + 6)$

(10) **(5 points)** Elridge Furniture discounts furniture 15% to customers paying cash. Jennifer paid $1393.83 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 30 miles per hour when a fawn suddenly appears 65 feet away in the middle of the road.

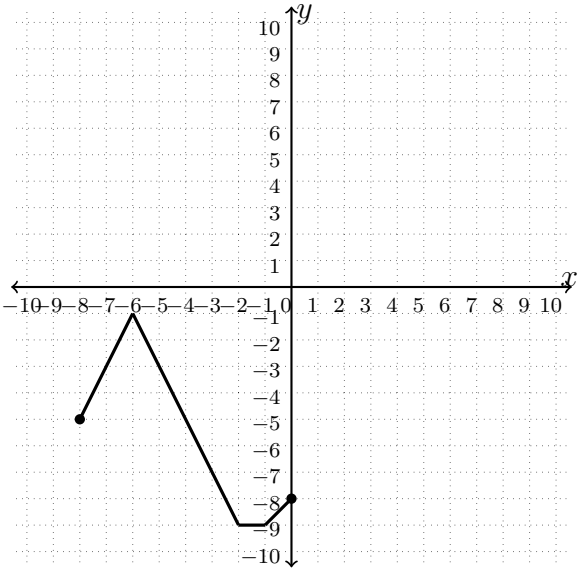
(a) **(5 points)** If she slams on her brakes now, how far will her car skid?

(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.

$$\begin{cases} x + 4y = -11 \\ -5x + 5y = 5 \end{cases}$$

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

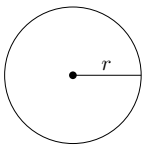


(a) **(2 points)** $f(-4)$

(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: Turing, Alan

Student ID: 8675311

Instructor: I. Crump

Signature: _____

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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) Correct. (f) Wrong. (g) Wrong. (h) Wrong.
(i) Wrong. (j) 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) 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) $x+1$ (b) $x(x+1)$
(c) $(x+1)(x-1)$ (d) $x(x+1)(x-1)$

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

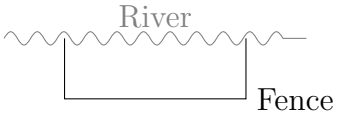
(a) A first part.

(b) A second part.

(6) **(12 points)** $\dfrac{1+\sqrt{12}}{2} = \dfrac{1}{2} + \sqrt{3}$

(7) **(12 points)** 1.69, 1.099

(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, 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

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

$(2x^2 + 5x + 1) \div (x + 4)$

(10) **(5 points)** Elridge Furniture discounts furniture 17% to customers paying cash. Jennifer paid $1125.60 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: $s = \sqrt{24 \cdot d}$ 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 35 miles per hour when a fawn suddenly appears 80 feet away in the middle of the road.

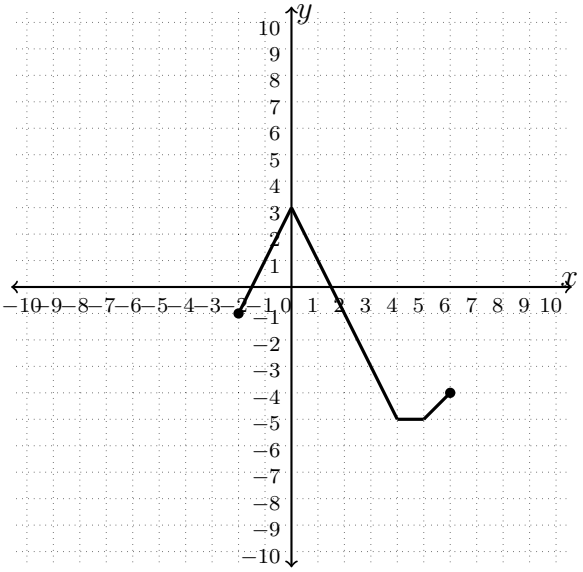
(a) **(5 points)** If she slams on her brakes now, how far will her car skid?

(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.

$$\begin{cases} 2x + 4y = 8 \\ x + 5y = 16 \end{cases}$$

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

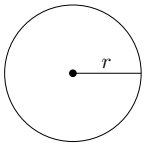


(a) **(2 points)** $f(2)$

(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: Von Neumann, John

Student ID: 8675312

Instructor: J. Niknejad

Signature: _____

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(1) **(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.

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

(a) Wrong. (b) Correct. (c) 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 $\frac{1}{x(x-1)}$ is

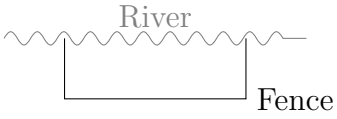
(a) $x(x+1)(x-1)$
(b) $x+1$
(c) $(x+1)(x-1)$
(d) $x(x+1)$

(5) **(12 points)** 1596068 is awkward to read; 1,596,068is missing a space, 1,596,068 is nice, $1,596,068$ adds spacing that makes it confusing to read.

(6) **(12 points)** I successfully chose then number 5 at random.

(7) **(12 points)** I successfully chose then number -2 at random.

(8) **(5 points)** You have 260 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

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

$(2x^2 + 2x - 13) \div (x + 4)$

(10) **(5 points)** Elridge Furniture discounts furniture 18% to customers paying cash. Jennifer paid $1443.14 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 35 miles per hour when a fawn suddenly appears 60 feet away in the middle of the road.

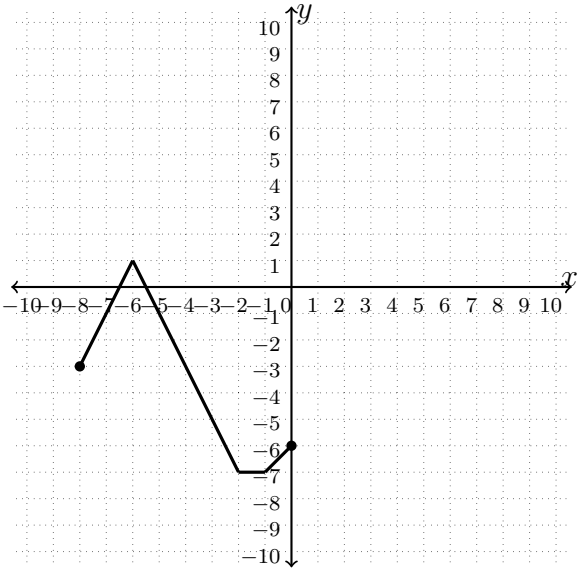
(a) **(5 points)** If she slams on her brakes now, how far will her car skid?

(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.

$$\begin{cases} 3x + y = 7 \\ -4x - 5y = -24 \end{cases}$$

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

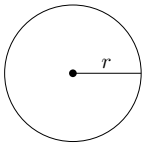


(a) **(2 points)** $f(-5)$

(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: Euler, Leonhard

Student ID: 8675313

Instructor: J. Niknejad

Signature: _____

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(1) **(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.

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

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

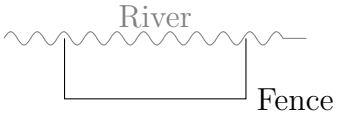
(4) **(2 points)** The least common denominator for $\frac{x}{x+1}$ and $\frac{1}{x-1}$ is
   (a) $x+1$
   (b) $x(x+1)(x-1)$
   (c) $x(x+1)$
   (d) $(x+1)(x-1)$

(5) **(12 points)** I successfully chose then number 1 at random.

(6) **(12 points)** $\dfrac{1+\sqrt{20}}{2} = \dfrac{1}{2} + \sqrt{5}$

(7) **(12 points)** $-4x - 9y$

(8) **(5 points)** You have 328 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

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

$(4x^2 + 10x - 14) \div (x + 4)$

(10) **(5 points)** Elridge Furniture discounts furniture 14% to customers paying cash. Jennifer paid $1239.31 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: $s = \sqrt{21 \cdot d}$ 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 45 miles per hour when a fawn suddenly appears 55 feet away in the middle of the road.

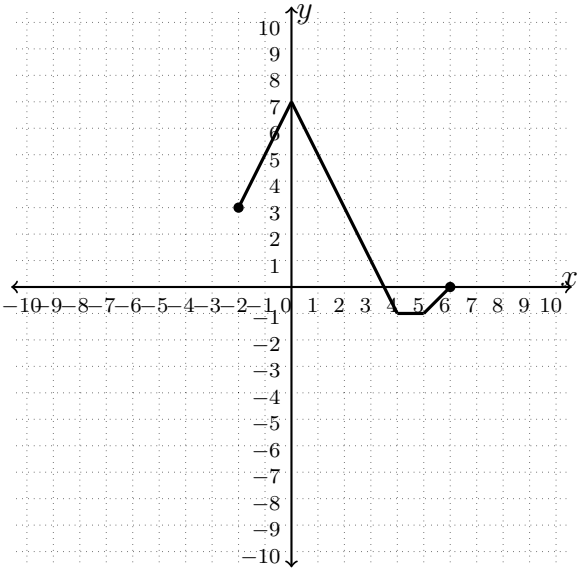
(a) **(5 points)** If she slams on her brakes now, how far will her car skid?

(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.

$$\begin{cases} x - 4y = 4 \\ -4x + 5y = -16 \end{cases}$$

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

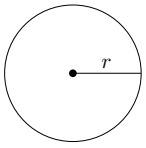


(a) **(2 points)** $f(1)$

(b) **(2 points)** The domain.

(c) **(2 points)** The range.

(14) Suppose the following circle has radius $r = 3$. What is the circumference of the circle?



Name: Leibniz, Gottfried

Student ID: 8675314

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) Wrong.
(i) Correct. (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

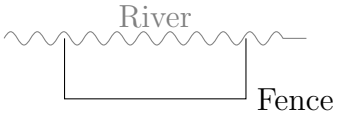
(a) $x(x+1)$ (b) $x+1$
(c) $(x+1)(x-1)$ (d) $x(x+1)(x-1)$

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

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

(7) **(12 points)**
(a) $3 + 8 = 11$
(b) $3 - 8 = -5$
(c) $8^3 = 512$
(d) $3 \times 100 = 300$
(e) $\log_8(3) = 0.5283208335737188$
(f) 209 can be factored into two primes.

(8) **(5 points)** You have 352 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

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

$(3x^2 + 13x - 18) \div (x + 6)$

(10) **(5 points)** A roll-top desk in Elridge Furniture has been marked up 16% and is being sold for $1581.93. How much did Elridge Furniture pay the distributer 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 45 miles per hour when a fawn suddenly appears 60 feet away in the middle of the road.

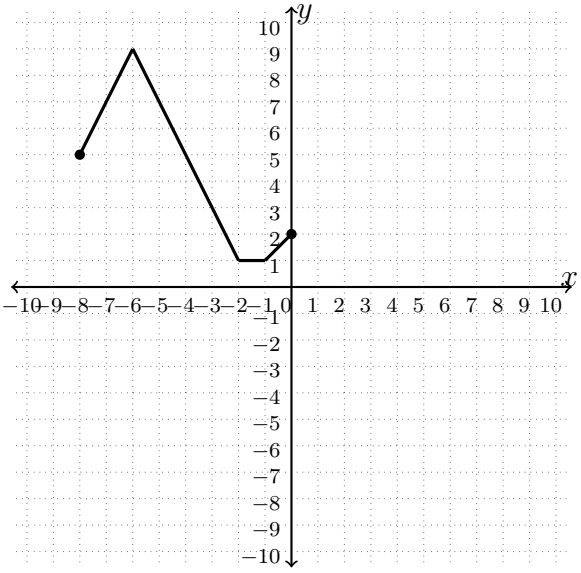
(a) **(5 points)** If she slams on her brakes now, how far will her car skid?

(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.

$$\begin{cases} x - 4y = 4 \\ -4x + 3y = -16 \end{cases}$$

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

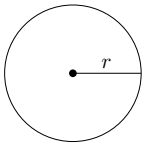


(a) **(2 points)** $f(-6)$

(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: Babbage, Charles

Student ID: 8675315

Instructor: _____

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) Wrong.
(i) Correct. (j) Wrong.

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

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

(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 $\frac{1}{x(x-1)}$ is

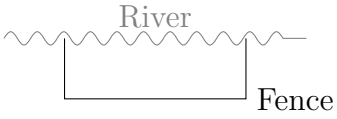
(a) $x+1$ (b) $x(x+1)$
(c) $(x+1)(x-1)$ (d) $x(x+1)(x-1)$

(5) **(12 points)** $3x^2 - x + 5 = xyz^3 + 5$

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

(7) **(12 points)** 1,000,000.12345$\neq$ 1,000,000.1

(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, 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

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

$(3x^2 + 11x - 30) \div (x + 6)$

(10) **(5 points)** Elridge Furniture discounts furniture 17% to customers paying cash. Jennifer paid $1886.56 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 80 feet away in the middle of the road.

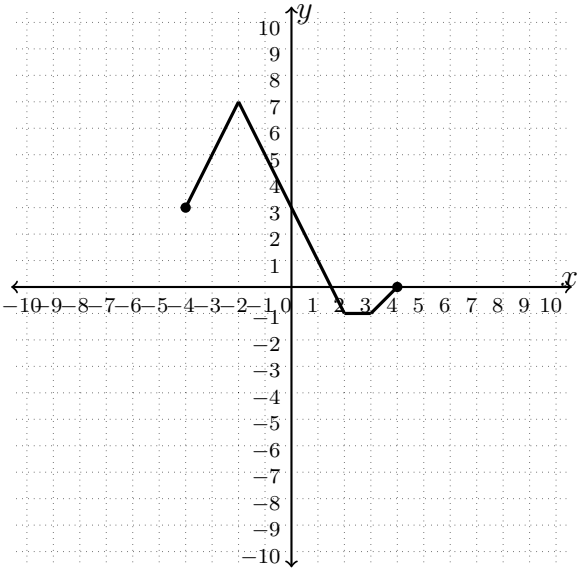
(a) **(5 points)** If she slams on her brakes now, how far will her car skid?

(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.

$$\begin{cases} -3x - 5y = -40 \\ -5x + y = -20 \end{cases}$$

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

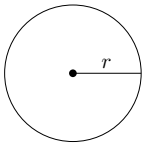


(a) **(2 points)** $f(-2)$

(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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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) Wrong.
(i) Correct. (j) 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) Correct. (c) Wrong. (d) Wrong.
(e) Wrong. (f) Wrong. (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

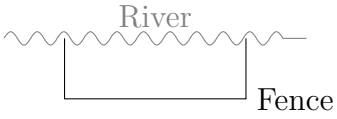
(a) $x(x+1)$ (b) $x+1$
(c) $x(x+1)(x-1)$ (d) $(x+1)(x-1)$

(5) **(12 points)** $\dfrac{1+\sqrt{8}}{2} = \dfrac{1}{2} + \sqrt{2}$

(6) **(12 points)** I successfully chose then number 5 at random.

(7) **(12 points)** $4x + 10y$

(8) **(5 points)** You have 212 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

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

$(3x^2 + 13x - 42) \div (x + 7)$

(10) **(5 points)** In April of this year, Greenfield received 9.75 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: $s = \sqrt{24 \cdot d}$ 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 30 miles per hour when a fawn suddenly appears 75 feet away in the middle of the road.

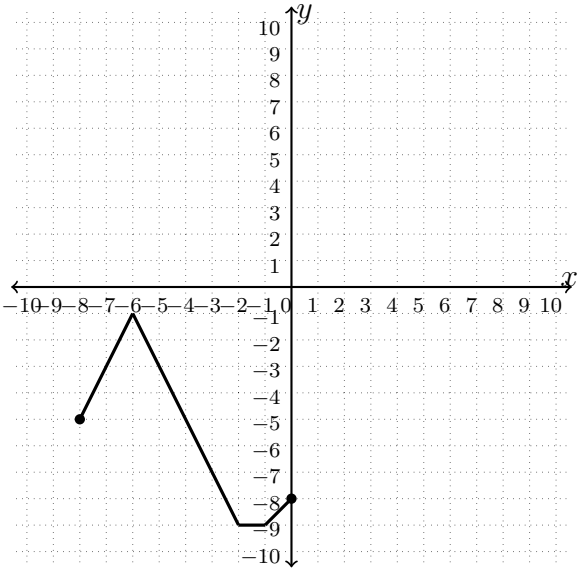
(a) **(5 points)** If she slams on her brakes now, how far will her car skid?

(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.

$$\begin{cases} 3x + 5y = -37 \\ x - 3y = 11 \end{cases}$$

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

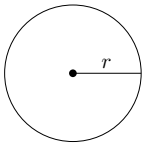


(a) **(2 points)** $f(-3)$

(b) **(2 points)** The domain.

(c) **(2 points)** The range.

(14) Suppose the following circle has radius $r = 4$. What is the circumference of the circle?



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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) Wrong.
(i) Wrong. (j) Correct.

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

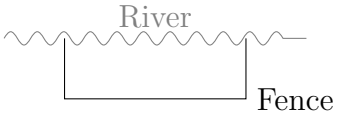
(5) **(12 points)** Any preamble.
   (a) A first part.

   (b) A second part.

(6) **(12 points)** $\frac{16}{-2} = -8$ or -8

(7) **(12 points)** $[2, 5, 6]$ contains $2, 5$, and 6.

(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

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

$(3x^2 + 7x - 8) \div (x + 4)$

(10) **(5 points)** A roll-top desk in Elridge Furniture has been marked up 14% and is being sold for $1302.78. How much did Elridge Furniture pay the distributer 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: $s = \sqrt{21 \cdot d}$ 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 60 feet away in the middle of the road.

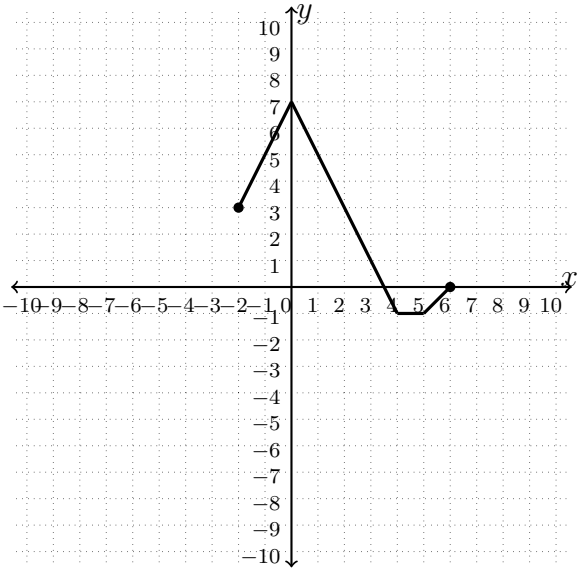
(a) **(5 points)** If she slams on her brakes now, how far will her car skid?

(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.

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

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

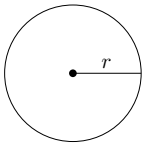


(a) **(2 points)** $f(1)$

(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?



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(1) **(2 points)** Which of these isn't mentally problematic?

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(c) $a \neq a$
(d) All of the above.

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

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

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

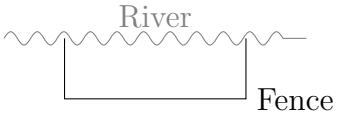
(a) $(x+1)(x-1)$
(b) $x+1$
(c) $x(x+1)$
(d) $x(x+1)(x-1)$

(5) **(12 points)**
   (a) If I add -8 to $y = x^2$, the graph shifts down.
   (b) $y = 2(4^x)$
   (c) $y = x$

(6) **(12 points)** 1,000,000.12345$\neq$ 1,000,000.1

(7) **(12 points)** $3x^2 - x - 5 = xyz^3 - 5$

(8) **(5 points)** You have 344 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

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

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

(10) **(5 points)** A roll-top desk in Elridge Furniture has been marked up 15% and is being sold for $1474.49. How much did Elridge Furniture pay the distributer 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 35 miles per hour when a fawn suddenly appears 70 feet away in the middle of the road.

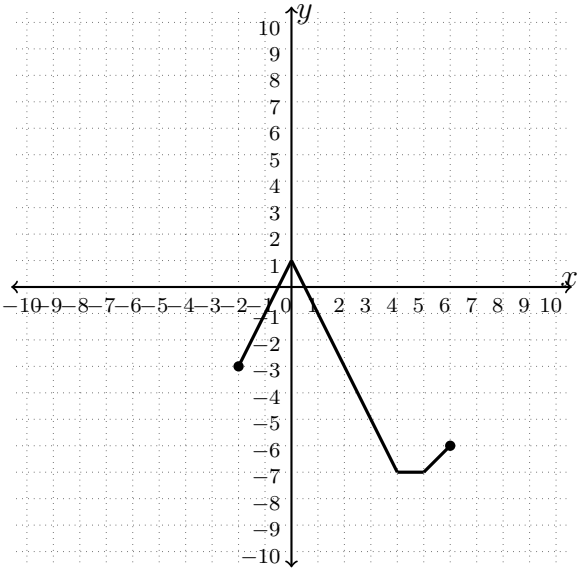
(a) **(5 points)** If she slams on her brakes now, how far will her car skid?

(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.

$$\begin{cases} -2x + 4y = 2 \\ -4x + y = -10 \end{cases}$$

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

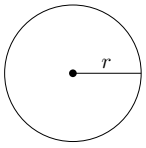


(a) **(2 points)** $f(3)$

(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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(1) **(2 points)** Which of these isn't mentally problematic?

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(c) $a \neq a$
(d) All of the above.

(2) **(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.

(3) **(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.

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

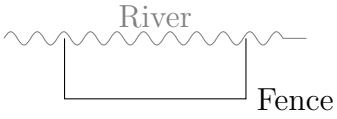
(a) $(x+1)(x-1)$ (b) $x(x+1)$
(c) $x(x+1)(x-1)$ (d) $x+1$

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

(6) **(12 points)**
- (a) $2 + 9 = 11$
- (b) $2 - 9 = -7$
- (c) $9^2 = 81$
- (d) $2 \times 100 = 200$
- (e) $\log_9(2) = 0.3154648767857287$
- (f) 119 can be factored into two primes.

(7) **(12 points)**
- (a) $4 + 7 = 11$
- (b) $4 - 7 = -3$
- (c) $7^4 = 2401$
- (d) $4 \times 100 = 400$
- (e) $\log_7(4) = 0.7124143742160444$
- (f) 133 can be factored into two primes.

(8) **(5 points)** You have 336 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

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

$(2x^2 + 3x - 27) \div (x + 5)$

(10) **(5 points)** Elridge Furniture discounts furniture 12% to customers paying cash. Jennifer paid $1614.90 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: $s = \sqrt{24 \cdot d}$ 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 35 miles per hour when a fawn suddenly appears 65 feet away in the middle of the road.

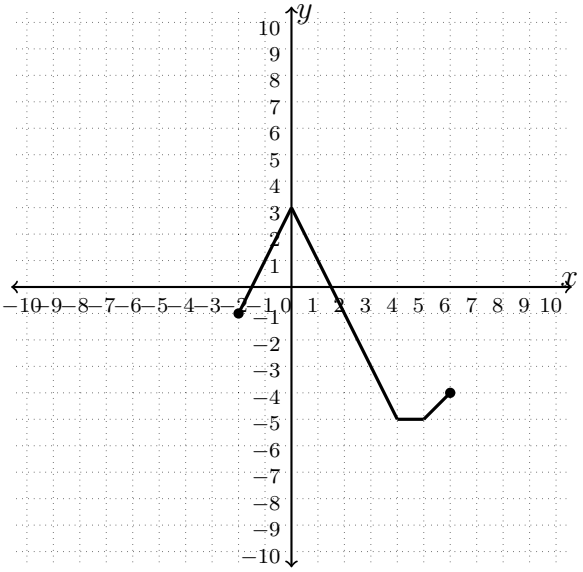
(a) **(5 points)** If she slams on her brakes now, how far will her car skid?

(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.

$$\begin{cases} x + 4y = 13 \\ 4x + 3y = 26 \end{cases}$$

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



(a) **(2 points)** $f(2)$

(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?