

Name \_\_\_\_\_

Practice  
Midterm Examination

**Dr. Kolodnicki**

**Need Help on a Question?** → Here is what unit you would need to go back to.

**Need more practice?** Check out the IXL's that go along with each unit!

Question Number	Standard
MC 1	Unit 1A
MC 2	Unit 1B
MC 3	Unit 2
MC 4	Unit 2
MC 5	Unit 2
MC 6	Unit 3
MC 7	Unit 3
MC 8	Unit 3
MC 9	other
CR 10	Unit 1A
CR 11	Unit 2
CR 12	Unit 1B
CR 13	Unit 3
CR 14	Unit 3
CR 15	Unit 2
CR 16	Unit 3
CR 17	Unit 3
CR 18	Unit 3

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Algebra 1A Common Core Midterm

**Part I**

**Answer all questions in this part. Each correct answer will receive 2 credits. No partial credit will be allowed. Utilize the information provided for each question to determine your answer. Note that diagrams are not necessarily drawn to scale. For each statement or question, choose the word or expression that, of those given, best completes the statement or answers the question. Record your answers on your separate**

1 For which value of  $P$  and  $W$  is  $P + W$  a rational number?

(1)  $P = \frac{1}{\sqrt{3}}$  and  $W = \frac{1}{\sqrt{6}}$

(2)  $P = \frac{1}{\sqrt{4}}$  and  $W = \frac{1}{\sqrt{9}}$

(3)  $P = \frac{1}{\sqrt{6}}$  and  $W = \frac{1}{\sqrt{10}}$

(4)  $P = \frac{1}{\sqrt{25}}$  and  $W = \frac{1}{\sqrt{2}}$

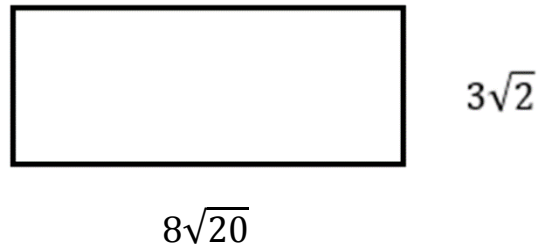
2 If fencing needs to go around the entire yard displayed below, how much fencing will be needed?

(1)  $11\sqrt{22}$

(2)  $22\sqrt{44}$

(3)  $38\sqrt{7}$

(4)  $32\sqrt{5} + 6\sqrt{2}$



3 Mrs. Maloney asked her students to identify which of the polynomials below are in standard form and explain why.

I.  $15x^4 - 6x^3 + 3x^2 - 1$

II.  $12x^3 + 8x^4 + 4$

III.  $2x^5 + 8x^2 + 10x$

Which student's response is correct?

(1) Charlie said I and III because the exponents are decreasing.

(2) Kayla said only II because all the numbers are decreasing.

(3) Jake said II and III because the exponents are decreasing.

(4) Kenny said II and III because they each have three terms.

- 4 The area of a rectangle is represented by  $(6x + 3)(x - 5)$ . Which expression can also be used to represent the area, or the product?

(1)  $6x^2 - 27x - 15$

(2)  $7x - 2$

(3)  $6x^2 - 33x - 15$

(4)  $5x - 2$

- 5 Which of the following is equivalent to  $\frac{x^3y^{-6}z^5}{x^7y^2z^{-3}}$  but only uses **positive** exponents?

(1)  $\frac{z^2}{x^{10}y^{-4}}$

(3)  $\frac{z^8}{x^4y^8}$

(2)  $x^{-4}y^{-8}z^8$

(4)  $x^{10}y^{-4}z^2$

- 6 Which of the following is the solution to this equation:  $\frac{1}{2}x + 4.2 = 8.7$

(1)  $-9$

(2)  $25$

(3)  $25.8$

(4)  $9$

- 7 When  $S = 9a + b$  is solved for  $a$ , the following equation would equal

(1)  $a = \frac{9}{S-b}$

(2)  $a = \frac{S-9}{b}$

(3)  $a = \frac{S-b}{9}$

(4)  $a = S - 9 - b$

8 Sam and Taylor go to the movie theatre and purchase refreshments for their friends. Sam spends a total of \$19.75 on three bags of popcorn and two drinks. If the price of popcorn is represented by  $p$ , and the price of a drink is represented by  $d$ , which of the following represents this situation?

- (1)  $19.75 = 5pd$
- (2)  $19.75 = 2d + 3p$
- (3)  $19.75 = 2p + 3d$
- (4)  $19.75 + 2p + 3d$

9 A mutant plant can grow 450 centimeters each minute. Approximately, how many inches will that be per hour?

- (1) 68,580
- (2) 10,630
- (3) 19
- (4) 3

### Part II

**Answer all questions in this part. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. Utilize the information provided for each question to determine your answer. Note that diagrams are not necessary drawn to scale. For all questions in this part, a correct numerical answer will no work will receive only 1 credit. All answers should be written in pen, except for graphs and drawings, which should be done in pencil.**

10 Determine if the product of  $5\sqrt{3}$  and  $6\sqrt{18}$  is rational or irrational. Explain your answer.

11 What is the sum of  $-6x^2 - 4x + 13$  and  $-7x^2 + 9x - 8$ ?

**12** Use the *quadratic formula* to find the solutions to the equation  $4x^2 + 16x + 9 = 0$ . Write your answer in simplest radical form!

**13** Solve the following for f:  $-k + 8f = 17$

**14** Solve:  $\frac{5}{6} = \frac{7n+9}{9}$

**15** If  $A = 6x^2 + 3x - 9$  and  $B = -2x^2 - 4x + 6$ , then  $A - B$  equals?

**16** The width of a rectangle is 12 cm less than the length. The perimeter is 156 cm. Find the width and length



**17** Solve:  $6m - 5 = 5m - 3$

**18** Solve:  $-5(3y + 1) = -81 + 4y$