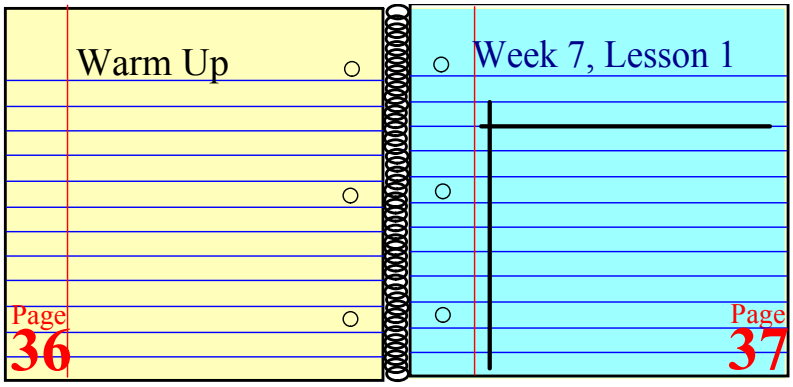

Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question

EQ: Do I know exponent rules for multiplying, dividing, and power to a power? (A-APR.1)

Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question

Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-

Warm-up: Answer the following questions.

1) Are $3x$ and $4x^2$ like terms? Why or why not?

Not like terms

2) $4x + 3x$

$7x$

3) $-2x^2 + 5x^2$

$3x^2$

4)

$(3x^5 + x^5 + 6x^3 + x^3)$

$4x^5 + 7x^3$

5)

$(5x^2 + 3x^2 + 8x + 10x)$

$8x^2 + 18x$

Notes Notes

Properties of Exponents

A-APR.1

A) Multiplication Properties

Product of Powers:

$x^5 \cdot x^3$ x^8 $5^2 \cdot 5^8$ 5^{10} 9,765,625

If the base is the same, add the exponents.

Power of a Power:

$(x^3)^2$ x^6 $(4^2)^4 = 4^8$ 65536

When there is an exponent on the parentheses, multiply exponents.

Power of a Product:

$(a \cdot b)^w = a^w b^w$ $(4x^5)^2 = 4^2 \cdot x^{10} = 16x^{10}$

When the exponent is on the parentheses, distribute the exponent to every term.

Examples:

1. $x^3 x^6 x^4 x^2$ x^{15}

2. $(x^5)(x^2)(x^3)(x^4)$ x^{14}

3. $(x^3)^6 \cdot (x^4)^2$ $x^{18} \cdot x^8$ x^{26}

4. $(3x^2y^3)^4$ $3^4 x^8 y^{12}$ $81x^8y^{12}$

5. $2x^2y^3 \cdot 5x^2y^1$ $10x^4y^4$

6. $(2x^5) \cdot (3x^2)^3 \cdot (4x^4)^2$ $2x^5 \cdot 3^3 x^6 \cdot 4^2 x^8$ $2x^6$ $27x^6$ $16x^8$ $864x^{19}$

Summary:

ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activit

ICA: Simplify each expression.

$a^2(a^3)(a^6)$

$x(x^2)(x^7)$

$(y^2z)(yz^2)$

$(x^2y^2)(x^3y)$

5 $(b^2x^4)(b^2x^2)$

6 $(cd^2)(c^3d^2)$

7 $(2x^2)(3x^5)$

8 $(5a^7)(4a^2)$

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ICA: Simplify each expression.

1) $4^2 \cdot 4^2$

2) $4 \cdot 4^2$

3) $3^2 \cdot 3^2$

4) $2 \cdot 2^2 \cdot 2^2$

5) $2n^4 \cdot 5n^4$

6) $6r \cdot 5r^2$

7) $2n^4 \cdot 6n^4$

8) $6k^2 \cdot k$

ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activit

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$(2x^2)^2$	$(p^4)^4$
$(k^3)^4$	$(7k)^2$
$(x^2)^3$	$(2b^2)^4$
$10xy^3 \cdot 8x^5y^3$	$6m^3n^3 \cdot 8m^2n^3$

ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity

Spiral Review Spiral Review Spiral Review Spiral Review Spiral Review Spiral Review Spiral Review Spiral Review Spiral Review Spiral Review Spiral Review

1. Andrew is considering accepting one of two sales positions. ABC Company offers a yearly salary of $50,000. XYZ Company offers a yearly salary of $38,000 plus a 9% annual commission on sales. For what amount of sales s is the salary at XYZ Company greater than the salary at ABC Company?

2. $5 \cdot 2 + \left(3^2 \div 3 + \sqrt{16}\right)$

3. $8(x+2) - 5x = 28$

4. $7x + 4 = 3x - 20$

5. $11 + x - 7 = 21$

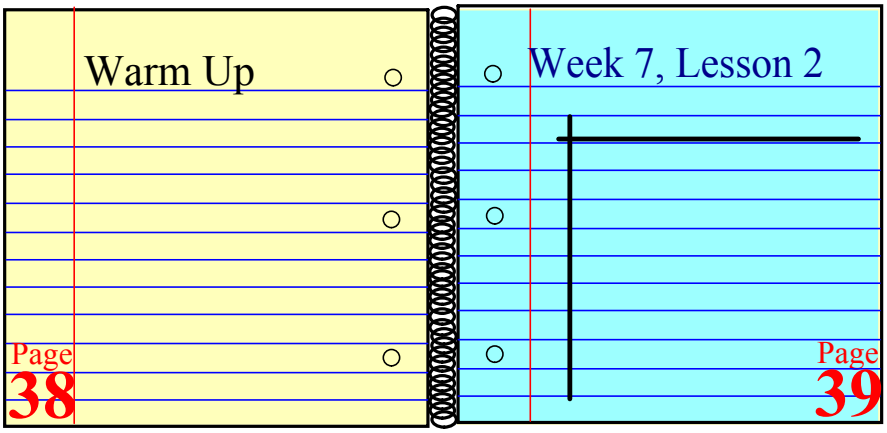
6. $13 = -3(x+5) + 7x$

7. $9x + 2 = x + 5$

8. $11x - 2(8x+5) = 15$

9. $-3x + 8 + 15x = 32$

Write your summary for today's lesson. Also look back through your note what do you still need to work on?



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EQ: How do I add and subtract polynomials? (A-APR.1)

Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question

Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-

Warm-up: Give examples of the following number types.

1) $4x^2 \cdot 3x^1$

$x \cdot x \cdot x$

$12x^3$

2) $9xy^2 \cdot 9x^5y^2$

$81x^6y^4$

3) $(3ab^4)^4$

$(3^1a^1b^4)^4$

$3^4a^4b^{16}$

$81a^4b^{16}$

4) $(2x^4y^4)^4$

$(2^1x^4y^4)^4$

$2^4x^{16}y^{16}$

$16x^{16}y^{16}$

① 2
② 2
4
③ 2
8
④ 2
16

Notes Notes

Adding & Subtracting Polynomials

A-APR.1

Example 1: $(2x+3)+(3x-4)$

$5x-1$

Example 2: $(2x+3)-(3x-4)$

$2x+3-3x+4$

$-x+7$

Example 3: $(4x^2+3x-2)+(3x^2-2x+6)$

$7x^2+x+4$

Example 4: $(4x^5+2x^4+3x^2+6)-(x^4+2x^2-5)$

$4x^5+x^4+x^2+11$

ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity

ICA:

ADDING AND SUBTRACTING POLYNOMIALS **Find the sum or difference.**

$(4x+3)+(6x+3)$

$10x+6$

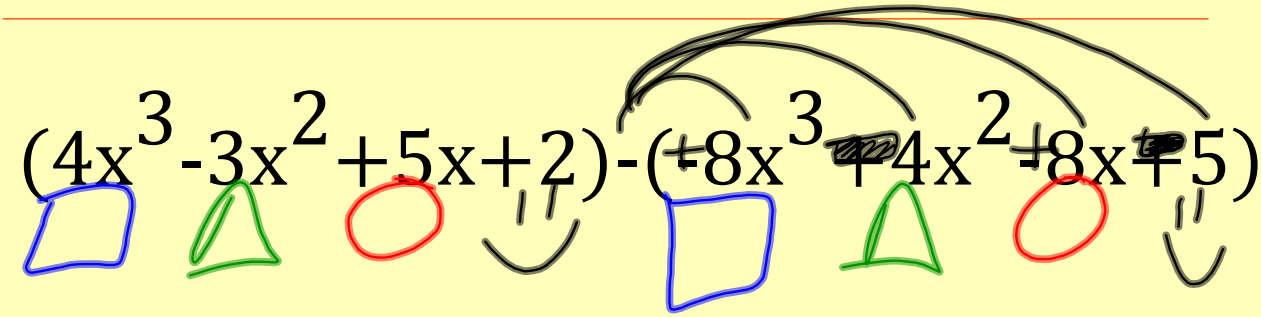
$(2x+3)-(4x-8)$

$-2x+11$

$(5x^2-3x+2)-(4x^2-8x+5)$

x^2+5x-3

$(4x^3-3x^2+5x+2)-(-8x^3+4x^2-8x+5)$



$12x^3-7x^2+13x-3$

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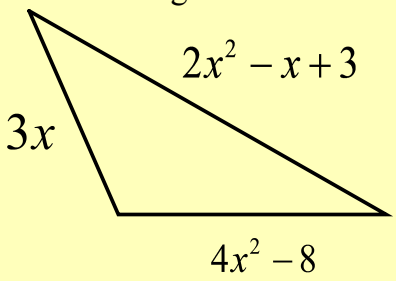
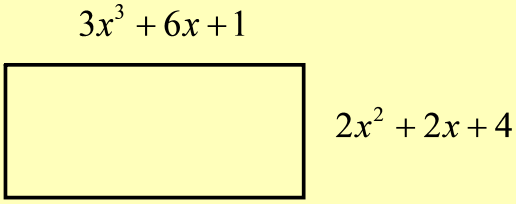
ICA:

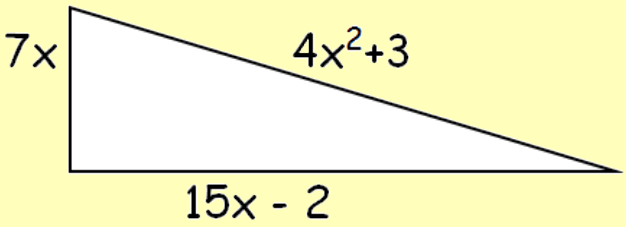
Write an expression that represents the perimeter of this triangle.



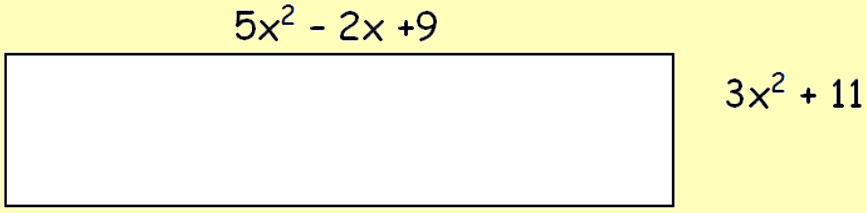
Write an expression for the perimeter of the rectangle.



6. Write an expression that represents the perimeter of this triangle.



7. Find the perimeter of the rectangle



Spiral Review Spiral Review Spiral Review Spiral Review Spiral Review Spiral Review Spiral Review Spiral Review Spiral Review Spiral Review Spiral Review

ICA:

ADDING AND SUBTRACTING POLYNOMIALS **Find the sum or difference.**

$(3x^2 + 2x - 5) + (x^2 + 3x + 5)$

$(x + 7) - (2x + 4)$

$(4x^5 - 3x^2 + 8) - (2x^5 + 2x^2 - 1)$

$(2x^3 - 4x^2 + 3x - 7) - (3x^3 + x^2 - 5x - 2)$

Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure

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Write a summary on your notes.

Warm Up

Page 40

Week 7, Lesson 3

Page 41

Get Your

Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question

EQ: How well do I know Standards A-APR.1a and A-SSE.1?

Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question

Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-

Warm-up: Define the following Words:

A-APR.1a and A-SSE.1

QUIZ

ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity

ICA: on page 40

$(9a^3 - 5a) - (3a^3 + 4a)$

$6a^3 - a$

$(\frac{1}{4}x^2y^4)(y^3z^5)(8xz^2)$

$\frac{1}{4} \cdot 8 \cdot x^2 \cdot x \cdot y^4 \cdot y^3 \cdot z^5 \cdot z^2$

$2x^3y^7z^7$

$(4b^3 + 2b) - (2b^3 - 2b)$

$x^2x^4x^5x^9$

$(x^3)^7$

$(5x^5 + 2x + 3) + (3x^4 + 3x + 7)$

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ICA:

$$(8x^2z - 6xz) + (x^2z + 3xz - 2) + (-10xz + 4)$$

$$(10x^2y^4)^2 + (5y^3z^5)(2xz^2)$$

$$(6x^5 - 2x + 3) + (2x^4 + 7) + (4x^5 - 2x^4)$$

$$(3xy^5 + 4xy - 5y) + (4x^4y - 8) + (9xy^5 - 6x^4y)$$

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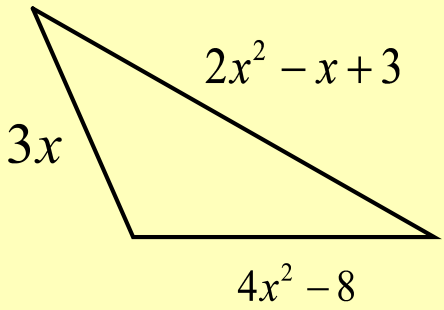
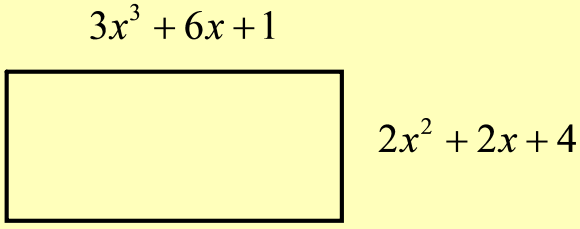
ICA:

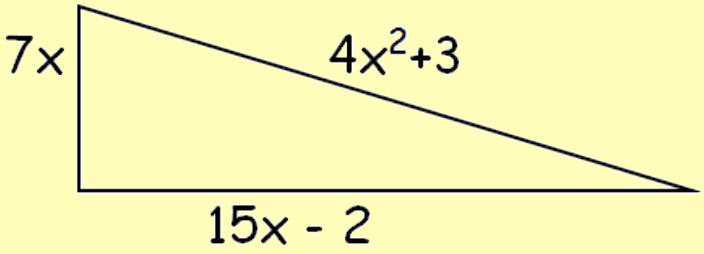
Write an expression that represents the perimeter of this triangle.



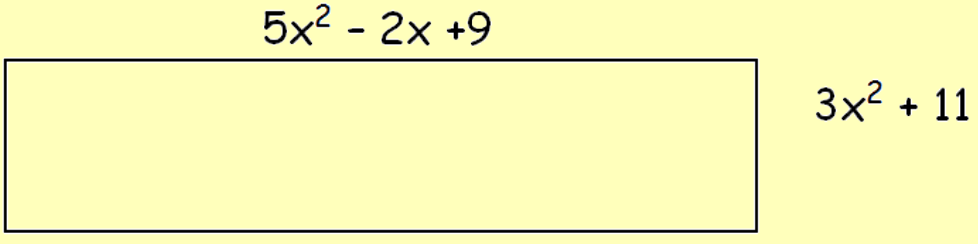
Write an expression for the perimeter of the rectangle.



Write an expression that represents the perimeter of this triangle.



Find the perimeter of the rectangle



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$(p^4)^4$

$(k^3)^4$

$(7k)^2$

$(x^2)^3$

$(2b^2)^4$

$10xy^3 \cdot 8x^5y^3$

$6m^3n^3 \cdot 8m^2n^3$

Summary/Reflection/Evaluation/Suggestions/Reminders

ALG 2 - Week 7

Lesson Plan: Week 5, Lesson 4

Content Objectives:

Number and Quantity

The Real Number System (N-RN)

- Extend the properties of exponents to rational exponents
- Use properties of rational and irrational numbers.

Quantities (N-Q)

- Reason quantitatively and use units to solve problems

Algebra

Seeing Structure in Expressions (A-SSE)

- Interpret the structure of expressions
- Write expressions in equivalent forms to solve problems

Arithmetic with Polynomials and Rational Expressions (A-APR)

- Perform arithmetic operations on polynomials
- Understand the relationship between zeros and factors of polynomials
- Use polynomial identities to solve problems
- Rewrite rational expressions

Creating Equations (A-CED)

- Create equations that describe numbers or relationships

Reasoning with Equations and Inequalities (A-REI)

- Understand solving equations as a process of reasoning and explain the reasoning
- Solve equations and inequalities in one variable
- Solve systems of equations
- Represent and solve equations and inequalities graphically

Functions

Interpreting Functions (F-IF)

- Understand the concept of a function and use function notation
- Interpret functions that arise in applications in terms of the context
- Analyze functions using different representations

Building Functions (F-BF)

- Build a function that models a relationship between two quantities
- Build new functions from existing functions

Linear, Quadratic, and Exponential Models (F-LE)

- Construct and compare linear, quadratic, and exponential models and solve problems
- Interpret expressions for functions in terms of the situation they model

Statistics and Probability

Interpreting Categorical and Quantitative Data (S-ID)

- Summarize, represent, and interpret data on a single count or measurement variable
- Summarize, represent, and interpret data on two categorical and quantitative variables
- Interpret linear models

Mathematical Practices (MP)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Language Objectives:

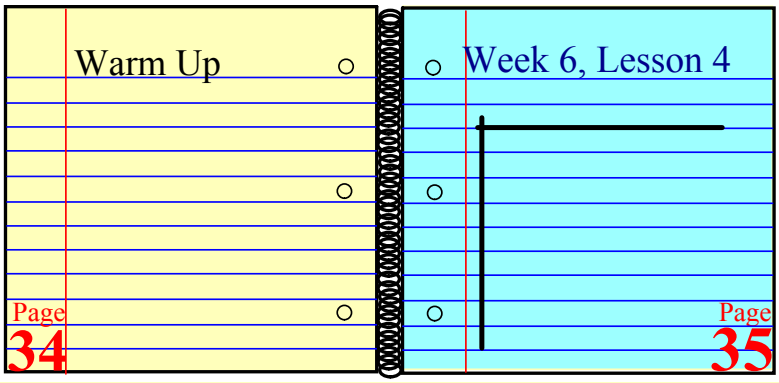
classify	compare	compose	contrast	define
demonstrate	describe	discuss	edit	elaborate
evaluate	experiment	explain	identify	interview
investigate	justify	label	list	listen
match	name	paraphrase	predict	present
rephrase	restate	rewrite	state	summarize

present your point of view

Materials Needed:

Calculators	Colored Pencils	Colored Pens	Compass	Flash Light
Graph Paper	Hi-Lighters	Index Cards	Navigator	Pattern Blocks
Protractor	Ruler	Scissors	Staplers	Staple Remover
Straws	String	Tape	Tape Measure	Tangrams
Worksheet	Yard Stick	Washers		

Activities/Directions:



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EQ: What do I have left to do in Unit 4 & what's coming up in Unit 5 Part 1?

Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question

Warm Up: $\left\{-2,\ \sqrt{9},\ -6.4,\ \frac{5}{4},\ \sqrt{2},\ 0,\ \pi,\ 3,\ -5\right\}$

1. Make 2 lists. One of all the rational numbers in the set above and one of all the irrational numbers.

2. How many terms are in the algebraic expression $8x+xy-6y$?

3. What is the coefficient of x in the algebraic expression $-x+12$?

4. $(8x^2z-6xz)+(x^2z+3xz-2)$

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ICA:

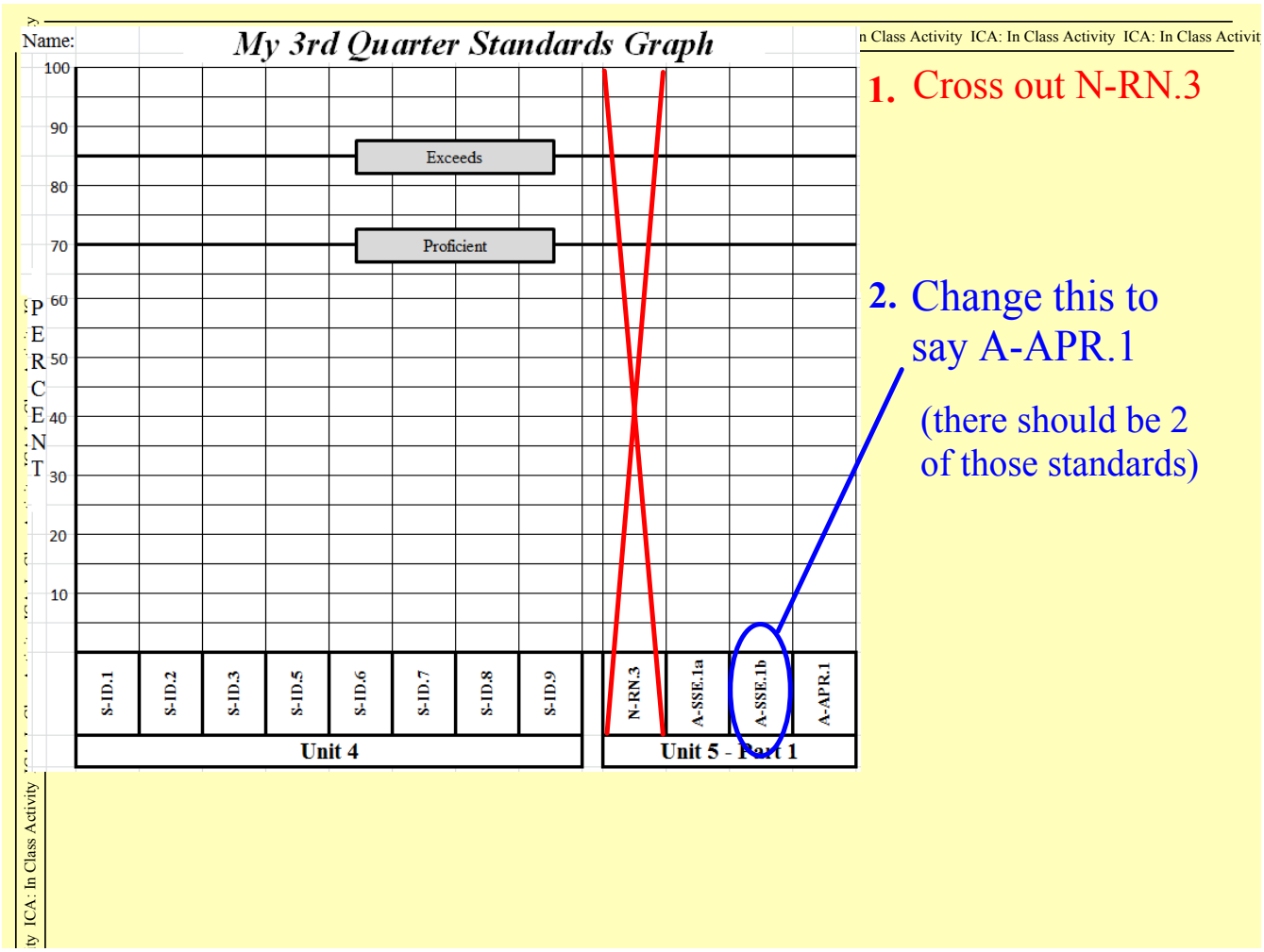
1. Update Grade graphs for Unit 4.

2. Write down the standards that you still need to improve.

3. Write down how you will fix those scores. Be specific.

4. Write down how you will fix those scores. Be specific.

ALG 2 - Week 7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S-ID.1
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S-ID.3
S-ID.5
S-ID.6
S-ID.7
S-ID.8
S-ID.9
N-RN.3
A-SSE.1a
A-SSE.1b
A-APR.1
Unit 4
Unit 5 - Part 1
1. Cross out N-RN.3
2. Change this to say A-APR.1
(there should be 2 of those standards)

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ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ctivity

ICA:

1. What operation always joins a variable and its coefficient in an algebraic expression?

2. Classify each of the following as a monomial, binomial or a trinomial.

a. $x+1$
b. $5-x^2$
c. x^2-x-1
d. $2x$

3. Explain the meaning of the exponent 2 in the algebraic expression $(3x+y)^2$.

4. Describe the error Kate made when simplifying the expression shown. $2(5x+6)=10x+6$

ALG 2 - Week 7

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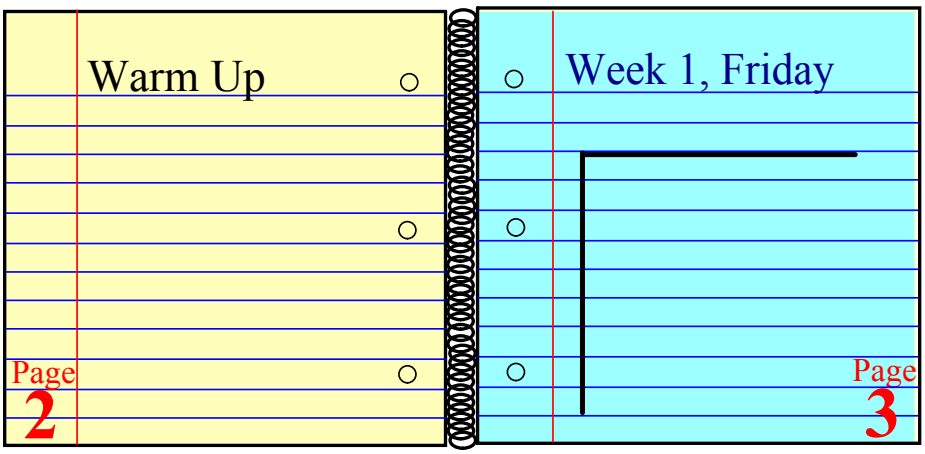

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EQ:

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Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-

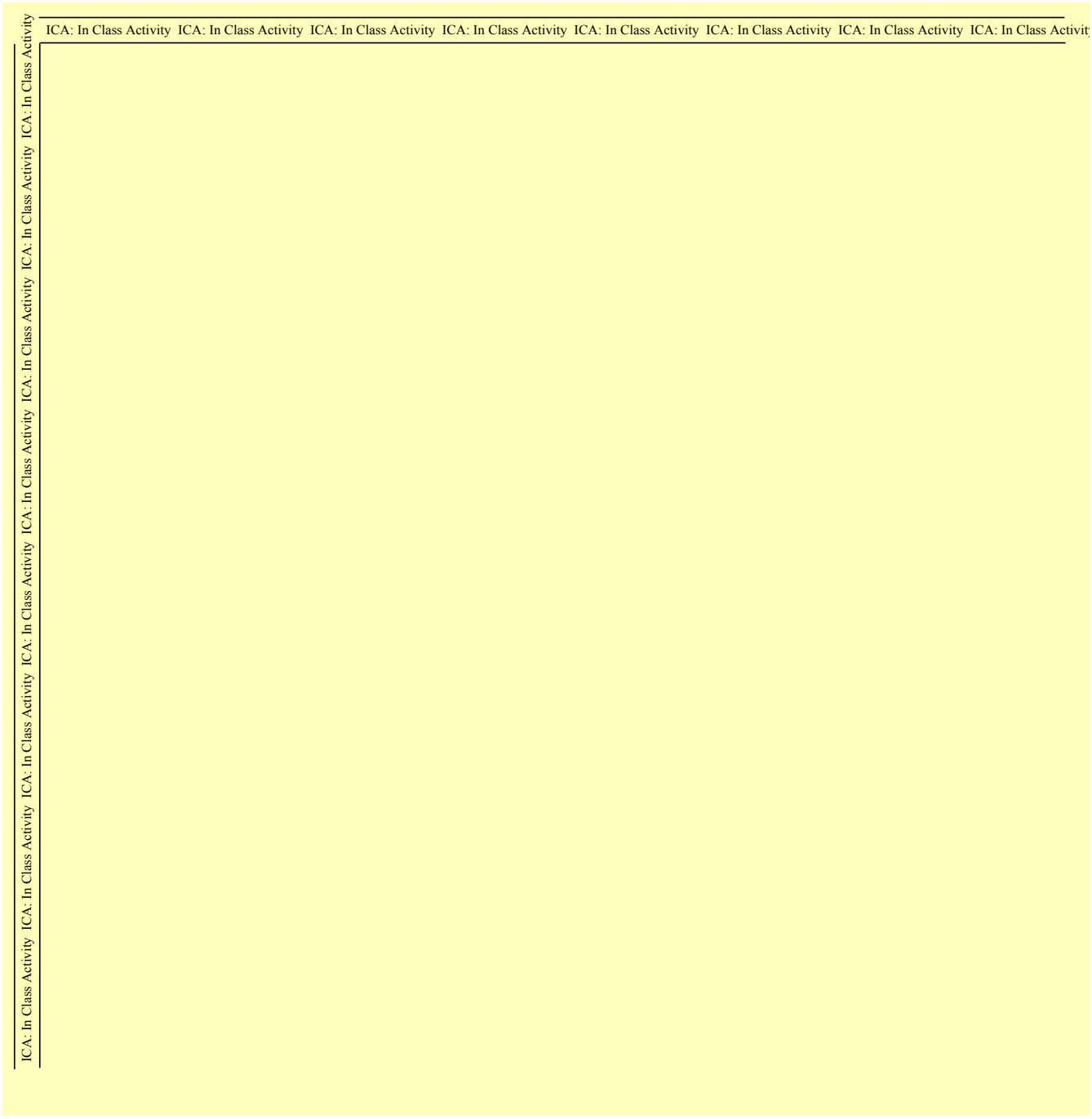
Warm-up: Answer the following questions.

Notes Notes

Title

Summary:

ALG 2 - Week 7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ALG 2 - Week 7

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ALG 2 - Week 7

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ALG 2 - Week 7

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ALG 2 - Week 7

Tutoring Work	Tutoring Work	Tutoring Work	Tutoring Work	Tutoring Work	Tutoring Work	Tutoring Work	Tutoring Work
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Summary/Reflection/Evaluation/Suggestions/Reminders

CRT Questions

ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activit

ICA:

ALG 2 - Unit 5 Part 1 Review.doc

Pull

Student Self Assessment
ALG 2 - Unit 5 Part 1: Polynomials

Name: _____
Period: _____

Am I ready for the test?		Checkpoint Quiz: Readiness Check: How well do I know it?			Tutoring Action Plan	Post-Test: Level of Accuracy: What were my scores?			Level of Mastery				
Standards	Learning Target (I can...)	Points Earned	Percent	Tutoring Y or N? Circle 1	Teacher Initials after tutoring	Questions on Test	Points Earned	Percent	Exceeds 85 - 100%	Proficient 70 - 84%	Approaches 55 - 69%	Some Evidence 1 - 54%	No Evidence 0%
A-SSE.1a	I can interpret parts of an expression.	☐/10		Yes 0-69% No 70-100%	Date: Initials:	1 - 5	☐/10		10	8	6	5	0
A-APR.1	I can add and subtract polynomials.	☐/20		Yes 0-69% No 70-100%	Date: Initials:	6 - 10	☐/20		10	8	6	5	0
A-APR.1	I can multiply polynomials.	☐/29		Yes 0-69% No 70-100%	Date: Initials:	11 - 15	☐/29		10	8	6	5	0