Midterm Review

Unit 1A: Number Systems & Properties

Resources:

IXL:
Evaluating expressions I.6/I.8
Rational/Irrational A.8, A.9
Properties- H
Translating: I.1

eMATHinstruction:
Unit 1: Lesson 10- Translating
Unit 1: Lessons 3, 4- Properties
Unit 2: Lesson 1- Expressions
Unit 9: Lesson 2 – Rational/Irrational

Unit 1B: Radicals

Resources:

IXL:
Radical Expressions EE: 1, 4, 5, 6
Radical functions and equations: FF:1,4
Pythagorean Theorem: F.17

eMATHinstruction:
Unit 9: Lessons 1, 2 and 6

Unit 2: Algebraic Expressions

Resources:

IXL:
Polynomials Z- all numbers!

eMATHinstruction:
Unit 7: Lessons 1 and 2

Unit 3: Algebraic Equations

Resources:

IXL:
I.5- Translating
J.10- Word Problems

J.3- Solve One step equations
J.4- Solve Two-step equations

I.7- Literal equations
J.5- Combining like terms
J.6- split variable

eMATHinstruction:
Unit2: Lessons 3

Key Dates

Tuesday 1/21 - Friday 1/24 MIDTERMS

Review

Midterm

Date:_____

Review for Midterm

The following standards will be on your Midterm:

Standard Number	Description
1	Sum or product of rational or irrational numbers
2	Simplifying radicals (solving the quadratic formula)
3	All operations with radicals
4	Write the standard form of a given polynomial and identify terms, coefficients, degree, constants, leading coefficients.
5	Perform all operations on polynomials
6	Use exponent rules for multiplying and dividing
7	Solve equations
8	Solve literal equations
9	Translate equations

There will be:

9 multiple choice questions

9 Part II Questions

How can I prepare?

- Go through and complete some IXL's everyday
- Watch the videos on Deck.Toys
- Go on eMathInstruction and watch videos/do the worksheets that go along with them
- Look back at old tests and quizzes and redo the problems
- Go to Extra help and work on anything you struggled with
- Make flashcards of key vocabulary! (Look back at the covers of your old packets!)

Review

Date: _____

Unit 1A Rational/Irrational Review

Rational/Irrational Numbers

1 Given: $L = 2\sqrt{9}$
$M = 2\sqrt{5}$
$N = 4\sqrt{2}$
$P = 2\sqrt{25}$

Which expression results in a rational number?

(1) $L + M$
(2) $M + N$
(3) $N + P$
(4) $P + L$

2 The product of $\sqrt{144}$ and $\sqrt{196}$ is

(1) Rational because one factor is rational
(2) Rational because both factors are rational
(3) Irrational because both factors are irrational
(4) Irrational because one factor is irrational

3 Is the product of $\sqrt{16}$ and $\frac{4}{7}$ rational or irrational? Explain your reasoning.

Date:_____

Review

Unit 1B Radicals Review

Simplifying Radicals

1 Solve the following quadratic equation using the quadratic formula. Express your answer in simplest radical form. $x^2 + 3x - 9 = 0$

2 If $5\sqrt{108} = k\sqrt{3}$, then k is equal to
(1) 15
(2) 30
(3) 60
(4) 120

Operations with Radicals

3 Determine if the product of $3\sqrt{24}$ *and* $5\sqrt{3}$ is rational or irrational. Justify your answer.

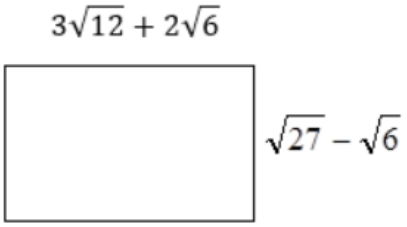
4 Which of the following does not represent a rational number?

(1) $3\sqrt{3} \cdot 4\sqrt{3}$
(2) $6\sqrt{256}$
(3) $\sqrt{4} + \sqrt{12}$
(4) $\frac{\sqrt{135}}{\sqrt{15}}$

Mixed Operations

5 Find the perimeter of the following in simplest radical form.

(1) $5\sqrt{51}$
(2) $10\sqrt{102}$
(3) $18\sqrt{3} + 2\sqrt{6}$
(4) $20\sqrt{9}$



6 What are the solution to the equation $x^2 - 8x - 10 = 0$? Use the quadratic formula and express your answer in simplest form.

(1) $4 \pm \sqrt{10}$
(2) $4 \pm \sqrt{26}$
(3) $-4 \pm \sqrt{10}$
(4) $-4 \pm \sqrt{26}$

REVIEW

Unit 2: Polynomials Review

Date:_____

Write the standard form of a given polynomial

1 When multiplying polynomials for a math assignment, Sam found the product to be $-6x^5 + 8 - 2x^3 + 5x$. He then had to state the constant of this polynomial. Sam wrote down 5. Do you agree with Sam's answer? Explain your reasoning.

2 An expression of the second degree is written with a leading coefficient of three and a constant of four. Which expression is correctly written for these conditions?

(1) $4x^2 + 3x^4 + 3$
(2) $2x^2 + 3x + 4$
(3) $-4x^2 + 7x^2 + 3$
(4) $3x^2 - 2x + 4$

3 Students were asked to write $4x^4 + 8 - 3x^2 + 9x^6$ in standard form. Anne's *correct* response is shown below. Her teacher then asked what is the *leading coefficient*?

Anne: $9x^6 + 4x^4 - 3x^2 + 8$

The correct answer to her teacher's question is:

(1) 6 (3) 8
(2) 4 (4) 9

Perform operations on polynomials

4 What is the product of $4x + 1$ and $2x^2 - 6x + 5$?

(1) $8x^3 - 22x^2 + 26x + 6$
(2) $8x^3 - 22x^2 + 14x + 5$
(3) $8x^3 - 26x^2 - 14x + 6$
(4) $8x^3 - 26x^2 + 26x + 5$

5 Which polynomial is twice the sum of $6x^2 - 4x + 9$ and $-3x^2 + 4x - 8$?

(1) $3x^2 + 1$
(2) $3x^2 + 3$
(3) $6x^2 + 2$
(4) $6x^2 + 3$

6 Express in simplest form: $(6x^2 + 10x - 18) - (-12x^3 + 4x + 5)$

Use properties of exponents

7 Simplify the expression $\frac{b^3y^{-5}}{b^2z}$ using only positive exponents.

8 Which of the following is **not** equivalent to $\frac{x^7}{x^6 \cdot x}$?

(1) $\frac{x^7}{x^7}$ (2) 1 (3) 0 (4) x^0

Date:_____

REVIEW # Unit 3: Equations Review

Level 1 Questions:

Solving an equation, using multiple choice strategies

$$48 + 5k = 58$$

(1) -2
(2) -1
(3) 4
(4) 2

Solving a one-step literal equation

Solve for z $A = z + d$

Identifying Key words
Match the following:

_____Product	A) Multiplying
_____Difference	B) Dividing
_____Sum	C) Subtracting
_____Quotient	D) Adding

Translating an equation, given multiple choices

Twice a number plus seven is 23

(1) $2 + 7 = 23$ (3) $2 + x + 7 = 23$

(2) $2x + 7 = 23$ (4) $\frac{2}{x} + 7 = 23$

Level 2 Questions:

Solving one- and two-step equations

$15 = n + 6$	$-45 = \frac{x}{5}$
$3f - 11 = 4$	$\frac{n}{4} - 6 = 15$

Solving one step literal equations

Solve for k $t = 3k$	Solve for c $2Q = c + d$

Translate a two-step equation

Five less than two times a number is the same as seven.	Eight more than the quotient of a number and 2 is equal to 12.

Level 3 Questions

Solving Split Variable, Multi-Step, Proportion, and Distributing Equations

$4(x+2)-5=6x+6$	$4x-19+3x=-12$
$\frac{3}{x-7}=\frac{2}{x}$	$8+3x=x-6$

Solving two step literal equations

Solve for f $y = \frac{f+g}{3}$	Solve for c $ca + e = s$

Translating a real-world equation

Verizon wireless used to charge customers very differently. They would be charged a flat fee of $20 per month plus five cents (0.05) per minute. Write an equation that would represent how much you would be able to talk (minutes) for $100.