

Regents Integrated Algebra

Twenty Day Countdown

The problem sets are chosen from the Integrated Algebra's POWER PI's

Note: We are providing you with daily problems. We have included several problems from old Regents exams. As you go through these problems with your students, we feel it is important to review how to solve the problem algebraically, as well as with the graphing calculator. Remember....our ultimate goal is to get our students to pass the Regents Exam.

DAY	Power PI
	Rational Expressions & Equations
1	AA.12 , AA.13 & AA.23 Operations with Polynomials and Transforming Formulas
2	AA.19 & AA.20 Factoring
3	AA.15 & AA.16 Rational Expressions (undefined & simplify)
4	AA.17 & AA.18 Rational Expressions (add/subtract)
5	AA.17 & AA.18 Rational Expressions (multiply/divide)
6	AA. 25 & AA.26 Rational Equations
	Right Triangle Trigonometry & Pythagorean Theorem
7	AA.42, AA.43, & AA.44 Right Triangle Trigonometry
8	AA.42, AA.43, AA.44, & AA.45 Right Triangle Trigonometry mixed with Pythagorean Theorem
	Perimeter, Area, & Volume of Polygons & Relative Error
9	A.G.1 Area and Perimeter of figures composed of Polygons
10	A.G.2 Use formulas to calculate volume and surface area of the rectangular solids and cylinders
11	A.M.1 & A.M.3 Calculate rates using appropriate units Calculate the relative error in measuring square and cubic units, when there is an error in the linear measure
	Equations, Inequalities, & Systems
12	AA.6, AA.7, & AA.10 Solve verbal inequalities, linear equations, and systems
13	AA.6, AA.7, & AA.10 Solve verbal inequalities, linear equations, and systems
14	AA.9 Exponential growth/decay
15	AG.7 & AG.9: Graphic Systems
16	AG.7 & AG.9: Graphic Systems

	Probability
17	AS. 19, AS.22, & AS.23 Probability: sample spaces, tree diagrams, independent and dependent events
18	AS. 19, AS.22, & AS.23 Probability: sample spaces, tree diagrams, independent and dependent events
	Sets
19	AA.29, AA.30, & AA.31 Sets
20	AA.29, AA.30, & AA.31 Sets

Day 1: AA.12, AA.13 & AA.23

AA.12: Multiply and divide monomial expressions with a common base, using properties of exponents

AA.13: Add, subtract, and multiply monomials and polynomials

AA.23: Solve literal equations for a given variable

Solving Equations with Variables in the Answer

Get the variable you are solving for by itself by undoing all the operations that are being done to it. **Remember its like solving a regular equations, variables represent numbers.

1.	If $3ax + b = c$, then x equals (1) $c - b + 3a$ (2) $c + b - 3a$ (3) $\frac{c - b}{3a}$ (4) $\frac{b - c}{3a}$
2.	Drew answered the question below on the IA Regents. Is he correct or incorrect? If he is incorrect please explain what mistake you think he may have made. The expression, is equivalent to $\frac{-32x^8}{4x^2}$, $x \neq 0$ 1) $8x^4$ 2) $8x^6$ 3) $-8x^4$ 4) $-8x^6$
3.	Libby solved the following equation for y on her IA Regents Exam. Did she solve it correctly? If not, please correct and explain what mistake you think she made. Solve $3x + 4y = 7$, for y $\begin{aligned} 3x + 4y &= 7 \\ 4y &= -3x + 7 \\ y &= \frac{-3}{4}x + 7 \end{aligned}$
4.	If $2a^2 - 6a + 5$ is subtracted from $3a^2 - 2a + 3$, the result is 1) $5a^2 - 8a + 8$ 2) $a^2 + 4a - 2$ 3) $-a^2 - 4a + 2$ 4) $a^2 - 8a + 8$ "From comes First"
5.	The expression $(x - 6)^2$ is equivalent to 1) $x^2 - 36$ 2) $x^2 + 36$ 3) $x^2 - 12x + 36$ 4) $x^2 + 12x + 36$

6.	The expression $\frac{(10w^3)^2}{5w}$ is equivalent to
7.	What is the product of $-3x^2y$ and $(5xy^2 + xy)$? 1) $-15x^3y^3 - 3x^3y^2$ 2) $-15x^3y^3 - 3x^3y$ 3) $-15x^2y^2 - 3x^2y$ 4) $-15x^3y^3 + xy$

Practice Questions:

1.	Which expression represents $(3x^2y^4)(4xy^2)$ in simplest form? 1) $12x^2y^8$ 2) $12x^2y^6$ 3) $12x^3y^8$ 4) $12x^3y^6$
2.	What is half of 2^6 ? 1) 1^3 2) 1^6 3) 2^3 4) 2^5
3.	Which expression represents $\frac{(2x^3)(8x^5)}{4x^6}$ in simplest form? 1) x^2 2) x^9 3) $4x^2$ 4) $4x^9$
4.	Which expression is equivalent to $-3x(x - 4) - 2x(x + 3)$? 1) $-x^2 - 1$ 2) $-x^2 + 18x$ 3) $-5x^2 - 6x$ 4) $-5x^2 + 6x$

5.	<p>The formula for potential energy is $P = mgh$, where P is potential energy, m is mass, g is gravity, and h is height. Which expression can be used to represent g?</p> <p>1) $g = P - mh$</p> <p>2) $g = \frac{P - m}{h}$</p> <p>3) $g = P - m - h$</p> <p>4) $g = \frac{P}{mh}$</p>
6.	<p>A formula used for calculating velocity is $v = \frac{1}{2}at^2$. What is a expressed in terms of v and t?</p> <p>1) $a = \frac{2v}{t}$</p> <p>2) $a = \frac{2v}{t^2}$</p> <p>3) $a = \frac{v}{t}$</p> <p>4) $a = \frac{v}{2t^2}$</p>
6.	<p>The expression $(x^2 - 5x - 2) - (-6x^2 - 7x - 3)$ is equivalent to</p> <p>1) $7x^2 - 12x - 5$</p> <p>2) $7x^2 - 2x + 1$</p> <p>3) $7x^2 + 2x + 1$</p> <p>4) $7x^2 + 2x - 5$</p>
7.	<p>The expression $(6x^3y^6)^2$ is equivalent to</p> <p>1) $36x^6y^{12}$</p> <p>2) $36x^5y^8$</p> <p>3) $12x^6y^{12}$</p> <p>4) $6x^6y^{12}$</p>

8.	The product of $(3x + 2)$ and $(x - 7)$ is _____.
9.	When $(6x^2 + 3x + 5)$ is subtracted from $(2x^2 + 6x + 5)$, the result is _____.
10.	The product of $(5ab)$ and $(-2a^2b)^3$ is _____.
12.	If $x = 2a - b^2$, then a equals _____.