

## Diagnostic Review – Units 9, 10 in Math 095

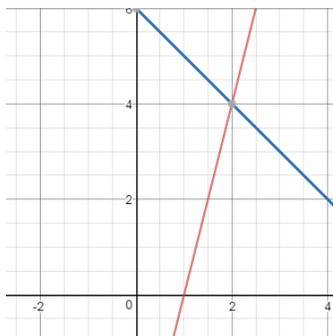
The Math Diagnostic Sequence at the College of Western Idaho allows students to test out of Units in Math 095. The diagnostic levels have between 10 and 25 questions. If you complete a level with a passing score, you may attempt the next level in the sequence. You are limited to two attempts per level in the Diagnostic. The two attempts do not need to be on the same day.

### Units 9, 10 – Radical Functions and Systems of Linear Equations

Topics for Unit 9, 10 Diagnostic Test	Examples
Write an exponential expression as a radical expression	1. $(10x)^{2/5}$
Simplify a radical expressions	2. $\sqrt{75x^6y^5}$
Add/subtract radical expression	3. $4x^3\sqrt{2x^2y} - 5^3\sqrt{16x^5y} + \sqrt{4x^4y^2}$
Solve an equation involving one radical expression	4. $\sqrt{4x - 5} + 12 = 16$
Simplify radicals with negative radicands	5. Simplify $\sqrt{-18}$
Add/subtract complex numbers	6. $(6 - 10i) - (4 + 7i)$
Mult/Div complex numbers	7. $(3 - 4i)(5 + i)$
Determine whether a given ordered pair is a solution to a system of equations	8 Is $(3, -1)$ a solution to the system of equations? $\begin{cases} 7x + 2y = 19 \\ x - 4y = 7 \end{cases}$
Solve a system of equations by graphing	9. Solve by graphing $y = 4x - 4$ $y = -x + 6$
Solve a system of equations by substitution	10. Solve by substitution $3x + 6y = -6$ $x + y = 4$
Solve a system of equations by elimination	11. Solve by elimination $8x + y = -9$ $-4x + y = 3$
Solve a word problem by using a system of equations	12. Isaiah weighs 20 pounds more than his friend, Geoff. If the sum of their weights is 340 pounds, how much does each man weigh?

**Answers: Units 9, 10 – Radical Functions and Systems of Linear Equations**

1. $\sqrt[5]{100x^2}$ or $(\sqrt[5]{10x})^2$ or $\sqrt[5]{(10x)^2}$	2. $5x^3y^2\sqrt{3y}$	3. $-6x^3\sqrt{2x^2y} + 2x^2y$	4. $x = \frac{21}{4}$
5. $3i\sqrt{2}$	6. $2 - 17i$	7. $19 - 17i$	8. Yes
9. (2, 4)	10. (10, -6)	11. (-1, -1)	12. Geoff weighs 160 pounds, and Isaiah weighs 180 pounds



Some websites to help you practice are:

IXL <https://www.ixl.com/math/algebra-1>

S.O.S Math <http://www.sosmath.com/algebra/algebra.html>

Khan Academy <https://www.khanacademy.org/math/algebra?t=practice>

Purplemath <http://www.purplemath.com/>