

Instructions: This is a practice test. It is by no means comprehensive, as the test may include situations that practice test does not address. That being said, your **WeBWork** and especially the **final exam review** should give you a good idea of what to expect on your tests. You should write all answers in simplest rational form. That means **NO DECIMAL SOLUTIONS**. *You will not be granted a calculator.

1. [10] Integer Exponents

a. $(-5m^2n^{-7})(-7am^{12}n^{11})$

b. $\left(\frac{3f^{-11}g^{-7}}{8f^{-15}g^{14}}\right)^{-2}$

2. [10] Order of Operations

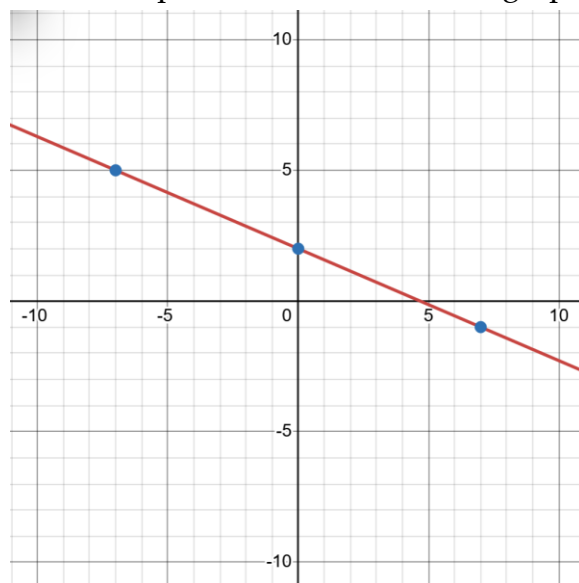
$$(-3)^3 + (-4)^2 - 8^0 - \left(\frac{1}{9}\right)^{-1} - 7^1 + 12 \cdot \frac{|16 - 2(-7)|}{3}$$

3. [10] Linear Equations

$$-2(3x - 2) - (x - 6) = -4(-1 + x) + x - 6$$

4. [10] Graph of a Line

a. Write an equation of the line in the graph.



b. What is the slope of any line that is parallel to the line in part a?

c. What is the slope of any line that is perpendicular to the line in part a?

5. [10] Equation of a Line
- Write an equation of a line passing through the points $(-4, 2)$ and $(14, -13)$ in point-slope form.
 - Write the equation of the line in slope-intercept form.
6. [10] System of Linear Equations – Substitution
- $$y = -4 - 3x$$
- $$6x + 5y = 16$$
7. [10] System of Linear Equations – Addition / Elimination
- $$2x - 5y = 11$$
- $$3x - 2y = -11$$
8. [10] Addition or Subtraction of Polynomials
- Subtract $-7x - 2y + 3xy - 4x^2 + 6$ from $-8xy + 4x^2 + 8x + 15$
 - Evaluate the answer to part a when $x = 2$ and $y = -3$
9. [10] Multiplying Polynomials
- $$(-3x + 7)(x^2 - 2x + 25)$$
10. [15] Dividing Polynomials
- [5]
$$\frac{63a^4b^5 + 56a^{13}b^{20} - 7ab^5}{-7ab^5}$$
 - [10]
$$\frac{x^3 - 3x^2 - 7x + 9}{x + 2}$$