MTH070 Review Problems for Test 3 - MLC

This is not a sample test. These problems are designed to get you started on your review for the test. Study the homework from the textbook for a more complete review.

Section 6.1

1. Determine whether the ordered pair (–4,–5) is a solution to the system of equations. Show work to verify your answer.

$$y = \frac{1}{2}x - 3$$
$$y = 2x + 3$$

2. Find the solution of the system by graphing the equations by hand. Then use "intersect" on your calculator to check your solution.

a) $y + 2x = 9$, $2y - x = 8$

b) $3y = 2x - 21$, $y + 5 = 2x - 6$

c) $y = -\frac{1}{4}x + 3$, $y - 2 = -\frac{1}{2}x - 4$

Section 6.2

3. Solve the system by substitution. Verify your solution by checking that it satisfies both equations of the system.

a) $3x - y = 8$, $y = 2x - 7$

b) $2x - y = 12$, $2x - 5y = 20$

c) $4x + y = 6$, $8 + y = 4x - 10$

d) $y = 3 - x$, $4x = 12 - 4y$

Section 6.3

4. Solve the system by elimination. Verify your solution by checking that it satisfies both equations of the system.

a) $x + y = -4$, $-x + y = 6$

b) $3x - y = -2$, $x + 2y = -10$

c) $21x - 3y = 6$, $2y - 6x = 4$

d) $-3y = 2x - 6$, $-2x + 3y = -6$

Section 7.1

5. What is the y-intercept of the graph of $y = 2x^2 + 12x - 5$?

6. Make a table of values and neatly graph each of the quadratic equations. Identify the *x*-intercepts and the vertex.

a) $y = -x^2 + 4x$

b) $y = -2x^2 + 12x - 10$

Section 7.4

7. Compute each of the products.

a) $-3x^2(x-5y)$ b) $xy(-5x+3xy-y)$

8. Multiply the Binomials.

a) $(x+5)(x+7)$ b) $(2x+5)(x-4)$

Section 7.6

9. Simplify each expression.

a) $(x^3)^4$ b) $(3x^3y)^2(xy^3)^5$

10. Simplify each expression.

a) $(5x)^2$ b) $-3x^2$

11. Simplify each expression.

a) $\left(\frac{4}{y}\right)^3$ b) $\left(\frac{-2}{3x}\right)^2$

12. Simplify each expression.

a) $(2x^3)^4$ b) $\left(\frac{3x^3}{y^4}\right)^3$

Section 7.7

13. Simplify each expression. Write without negative exponents.

a) y^{-1} b) 3^{-2} c) $3x^{-2}$

14. Simplify each expression. Write without negative exponents.

a) $\left(\frac{x}{y^2}\right)^{-1}$ b) $\left(\frac{x^2}{y^{-3}}\right)^{-2}$ c) $\left(\frac{x^{-5}y^4z^3}{x^{-3}y^5z^{15}}\right)^0$

15. Write each number in scientific notation.

a) 136, 000, 000 b) .000 004 2 c) 563×10^{-4} d) 237×10^6

16. Write each number in standard notation.

a) 4.73×10^{12} b) 6.93×10^{-5}