

Math 103
Exam #2
Spring 2011

Name:

1. 10 pts. Find an equation of the line passing through the points $(-2, 5)$ and $(-8, 14)$. Write the equation in standard form and also in slope-intercept form.

2. 10 pts. each Write each expression with only positive exponents, simplifying as much as possible.

(a) $5w^{-2}$

(b) $(-2x^4)^5$

(c) $\frac{4a^5(a^{-1})^3}{(a^{-2})^{-4}}$

3. 10 pts. Subtract $(2z^2 + 3z - 1) - (4z^2 + 5z + 6)$

4. 10 pts. each Find each product.

(a) $(5x - 3)(2x + 7)$

(b) $(2y + 3)^2$

5. 10 pts. Divide $\frac{2x^3 - 11x^2 + 25}{x - 5}$

6. 10 pts. each Factor out the greatest common factor, simplifying the factors if possible.

(a) $15y^3z^3 + 27y^2z^4 - 36yz^5$

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

7. 10 pts. Factor by grouping:

$$3ma + 3mb + 2ab + 2b^2$$

8. 10 pts. each Factor each fully.

(a) $r^2 - 2r - 35$

(b) $15p^2 + 24pq + 8q^2$

(c) $18c^2 - 98d^2$

(d) $27y^3 + 8$

(e) $x^4 - 625$