

Math 103
Exam #2
Summer 2011

Name:

1. 10 pts. each Write each expression with only positive exponents, simplifying as much as possible.
 - (a) $5u^{-8}$
 - (b) $(-2x^9)^5$
 - (c) $3v^2(-5v^{-6})(-2v)^0$
 - (d) $\frac{4a^5(a^{-1})^3}{(a^{-2})^{-4}}$
2. 10 pts. Add $(2z^2 + 3z - 1) + (4z^2 + 5z + 6)$
3. 10 pts. Subtract $4y^2 - 3y + 7$ from $9y^2 - 11y + 5$
4. 10 pts. each Find each product.
 - (a) $(4k + 3)(3k - 2)$
 - (b) $(4n + 3m)^2$
 - (c) $[(m + p) + 5][(m + p) - 5]$
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) $8r^3 + 24r$
 - (b) $15y^3z^3 + 27y^2z^4 - 36yz^5$
 - (c) $2(x + 7)^3 - 3(x + 7)^2$
7. 10 pts. Factor $20 + 5s + 12t + 3st$ by grouping
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) $x^4 - 625$
9. 10 pts. each Solve each equation by factoring.
 - (a) $3x^2 + 3 = -10x$
 - (b) $6x^3 - 13x^2 = 5x$