

Name _____

Each of the 19 questions is worth 5 points plus 1 points for each of 5 homework problems for a total of 100

Simplify the expression so that no negative exponents appear in the final result. Assume all variables represent nonzero numbers.

1) $(2x^{-5})^5(x^2)^{-4}$

Express the number in scientific notation.

2) 0.0000061118

Add or subtract as indicated.

3) $(8n^7 + 4n - 3n^6) + (6n^6 + 8n^7 - 2n)$

Math103 Intermediate Algebra - Spring 2008 - DLA - Test 2

$$4) (2x^3 + 9x^5 - 2 + 2x^4) - (1 - 7x^4 + 3x^5 - 5x^3)$$

Find the product.

$$5) (p + 7q)(p - 7q)$$

$$6) (4y - 9)(16y^2 + 36y + 81)$$

Divide.

$$7) \frac{x^2 + 7x + 12}{x + 4}$$

$$8) \frac{16x^3 - 28x^2 + 22x - 15}{4x - 5}$$

Factor out the greatest common factor. Simplify the factors, if possible.

$$9) 30x^9y^7 - 54x^4y^5 + 18x^7y^2$$

Factor by grouping.

$$10) x^2 + 5x + 7x + 35$$

Factor the trinomial completely.

$$11) x^2 - x - 56$$

12) $5x^2 - 15xy - 20y^2$

Factor the polynomial.

13) $64x^2 + 48xy + 9y^2$

Factor the polynomial completely.

14) $64a^3 - 125b^3$

15) $144s^2 - 25t^4$

16) $12x^2 + 25x + 12$

17) $6a^3 - 4a^2b - 15ab^2 + 10b^3$

Solve the equation.

18) $(x + 5)(x - 3)(x - 18) = 0$

Find all solutions by factoring.

19) $2x^2 + 27 = x^2 + 12x$