

Name: _____

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Algebra 2 Test

State each of the 6 exponent rules:

1)
2)
3)
4)
5)
6)

Simplify each of the following expressions

7)

$$yz^{-2}(x^2y)^3z$$

8)

$$\frac{xy^9}{3y^{-2}} \cdot \frac{-7y}{21x^5}$$

9)

$$(10x^3y^5)^{-3}$$

10)

$$\frac{12xy}{7x^4} \cdot \frac{7x^5y^2}{4y}$$

11)

$$\left(\frac{1}{10}\right)^3 \left(\frac{1}{10}\right)^{-3}$$

Solve each of the following problems

12)

$$(9x^3 - 2x + 1) + (5x^2 + 12x - 4)$$

13)

$$(9x^3 - 4 + x^2 + 8x) - (7x^3 - 3x + 7)$$

14)

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

15)

$$(x + 9)(x - 2)$$