

Name _____

Each of the 18 questions is worth 5 points plus 1 point for each of 10 homework problems for a total of 100 points

Perform the indicated operation.

1) $(2x^6 + 2x^8 - 2 - 9x^7) - (-4 + 2x^7 + 5x^8 - 7x^6)$

Simplify the expression. Use positive exponents. Assume variables represent nonzero real numbers.

2) $(4p^8)(7p^2)$

Use the power rules for exponents to simplify. Write the answer in exponential form.

3) $(-3x^3y^3)^2$

Find the product.

$$4) (6p - 1)(36p^2 + 6p + 1)$$

$$5) (x - 2y)(x - 9y)$$

Find the square.

$$6) (7x + 5y)^2$$

Find the product.

7) $(4a + 11c)(4a - 11c)$

Factor out the greatest common factor.

8) $64x^9y^7 + 80x^2y^5 - 160x^7y^3$

9) $5x^2 + 35x$

Complete the factoring.

10) $x^2 + 5x - 14 = (x + 7)(\quad)$

Factor completely.

11) $3x^3 + 6x^2 - 24x$

Factor as completely as possible. If unfactorable, indicate that the polynomial is prime.

12) $12y^2 + 54y - 30$

13) $8x^2 - 28x - 16$

Factor completely.

14) $16k^2 - 169m^2$

15) $x^4 - 16$

Solve the equation.

16) $10b^2 + 31b + 4 = -11$

Solve the problem.

17) Two cars leave an intersection. One car travels north; the other east. When the car traveling north had gone 6 miles, the distance between the cars was 2 miles more than the distance traveled by the car heading east. How far had the eastbound car traveled?

18) A painter leans a ladder against one wall of a house. The ladder is 30 ft long. The base of the ladder is 27 ft from the house. How high is the wall? Round approximations to the nearest tenth.

