

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) $(-7x^6 + 5x^8 + 7 + 2x^7) - (9 - 7x^7 + 8x^8 + 3x^6)$

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

2) $(9p^8)(7p^9)$

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

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

Find the product.

$$4) (9p - 1)(81p^2 + 9p + 1)$$

$$5) (x - 2y)(x - 4y)$$

Find the square.

$$6) (8x + 3y)^2$$

Find the product.

7) $(11a + 3c)(11a - 3c)$

Factor out the greatest common factor.

8) $54x^9y^6 - 36x^4y^4 + 30x^6y^2$

9) $5x^2 + 45x$

Complete the factoring.

10) $x^2 + 7x - 18 = (x + 9)(\quad)$

Factor completely.

11) $5x^3 + 10x^2 - 75x$

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

12) $18y^2 + 81y - 45$

13) $18x^2 - 63x - 36$

Factor completely.

14) $25k^2 - 81m^2$

15) $x^4 - 256$

Solve the equation.

16) $36b^2 + 60b + 23 = -2$

Solve the problem.

- 17) Two cars leave an intersection. One car travels north; the other east. When the car traveling north had gone 18 miles, the distance between the cars was 6 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 22 ft long. The base of the ladder is 16 ft from the house. How high is the wall? Round approximations to the nearest tenth.

