SM2 5.1: Greatest Common Factor

Name_____ ID: 1

Date_____ Period_____

Factor the greatest common factor out of each expression.

1) $8p - 7p^2 - 6p^3 + 8p^5$

   $p(8 - 7p - 6p^2 + 8p^4)$

2) $3y^2 - 2x^2 + 8y - 7$

   $3y^2 - 2x^2 + 8y - 7$

3) $16cb + 18ca^5 + 6c^3 + 2c^2b$

   $2c(8b + 9a^5 + 3c^2 + bc)$

4) $8y^3z^2 + 6xz^2 - 2x^2$

   $2(4y^3z^2 + 3xz^2 - x^2)$

5) $-27p^4m^6 - 21p^6m - 9p^2q$

   $-3p^2(9m^6p^2 + 7mp^4 + 3q)$

6) $10p^5rq + 9p^5r + 4p^3rq$

   $p^3r(10p^2q + 9p^2 + 4q)$

7) $54n^4 + 54n^2 + 48n - 54$

   $6(9n^4 + 9n^2 + 8n - 9)$

8) $63pr^4q^6 + 35p^2r^3q^5 - 28p^2r^3$

   $7pr^3(9q^6r + 5pq^5 - 4p)$

9) $-30 + 30a + 10a^2 - 15a^8$

   $-5(6 - 6a - 2a^2 + 3a^8)$

10) $32y + 40x$

    $8(4y + 5x)$

11) $-24 + 28x^2yz^5 + 8x^2y$

    $-4(6 - 7x^2yz^5 - 2x^2y)$

12) $-63j^4kh^2 + 14j^4k^2h - 21j^4kh + 35j^2k$

    $-7j^2k(9h^2j^2 - 2hj^2k + 3hj^2 - 5)$

13) $-6x^6y^2 - 54y + 24$

    $-6(x^6y^2 + 9y - 4)$

14) $20m^2p + 4m^4n$

    $4m^2(5p + m^2n)$

15) $45x^2y + 27xy^2$

    $9xy(5x + 3y)$

16) $-6q^2r^4 + 21qpr^2 - 9q^2p - 6q^2$

    $-3q(2qr^4 - 7pr^2 + 3pq + 2q)$

17) $-x + 4y^3z^3$

    $-(x - 4y^3z^3)$

18) $-8x^5y^3 + 14x^2y^2$

    $-2x^2y^2(4x^3y - 7)$

19) $10m^4n^2 + 50m^3 - 35m$

    $5m(2m^3n^2 + 10m^2 - 7)$

20) $35n^5 + 14n^3 - 42n^2 - 28$

    $7(5n^5 + 2n^3 - 6n^2 - 4)$