

Factoring Polynomials Part 1 - GCF Only

Date _____ Period _____

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Factor the common factor out of each expression.

1) $-32 + 8n$

2) $56b^2 + 48$

3) $25x^4 + 15x^3$

4) $10v^5 - 30v^4$

5) $n^4 - 2n^3 - 9n^2$

6) $-72x^2 + 80x + 48$

7) $-28a^6 + 20a^4 - 40a^3$

8) $72k^3 + 56k^2 - 56$

9) $-12x^8 + 27 + 3x^5 - 12x$

10) $-90x^9 + 80x^4 + 80x^3 + 100x^2$

11) $100 + 60m + 10m^2 + 100m^3$

12) $-90n^7 + 70n^3 + 30n - 40$

13) $9x^2 - 3xy$

14) $-21u^4v^5 + 28u^2$

15) $-3b^3 - ba$

16) $28y^6x - 35y$

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Factor the common factor out of each expression.

1) $-32 + 8n = 8n - 32$

GCF: 8 $\boxed{8(n-4)}$

2) $56b^2 + 48 = \boxed{8(7b^2 + 6)}$

GCF: 8

3) $25x^4 + 15x^3 = \boxed{5x^3(5x + 3)}$

GCF: $5x^3$
GCF only

4) $10v^5 - 30v^4 = \boxed{10v^4(v - 3)}$

GCF: $10v^4$

5) $n^4 - 2n^3 - 9n^2 = \boxed{n^2(n^2 - 2n - 9)}$

GCF: n^2

6) $-72x^2 + 80x + 48 = \boxed{-8(9x^2 - 10x - 6)}$

GCF: -8

7) $-28a^6 + 20a^4 - 40a^3 = \boxed{-4a^3(7a^3 - 5a + 10)}$

GCF: $-4a^3$

8) $72k^3 + 56k^2 - 56 = \boxed{8(9k^3 + 7k^2 - 7)}$

GCF: 8

9) $-12x^8 + 27 + 3x^5 - 12x = -12x^8 + 3x^5 - 12x + 27$

GCF: -3 $\boxed{-3(4x^8 - x^5 + 4x - 9)}$

10) $-90x^9 + 80x^4 + 80x^3 + 100x^2 = \boxed{-10x^2(9x^7 - 8x^2 - 8x - 10)}$

GCF: $-10x^2$

11) $100 + 60m + 10m^2 + 100m^3$

$100m^3 + 10m^2 + 60m + 100$

GCF: 10 $\boxed{10(10m^3 + m^2 + 6m + 10)}$

12) $-90n^7 + 70n^3 + 30n - 40$

GCF: -10 $\boxed{-10(9n^7 - 7n^3 - 3n + 4)}$

13) $9x^2 - 3xy$

GCF: $3x$ $\boxed{3x(3x - y)}$

14) $-21u^4v^5 + 28u^2 = \boxed{-7u^2(3u^2v^5 - 4)}$

GCF: $-7u^2$

15) $-3b^3 - ba$

GCF: -b $\boxed{-b(3b^2 + a)}$

16) $28y^6x - 35y = \boxed{7y(4y^5x - 5)}$

GCF: 7y