

Factor out the GCF. If you can't factor it write "prime"

Period _____

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Factor the common factor out of each expression.

1) $16p^4 + 4p^3$

2) $9x + 36$

3) $63 + 45b$

4) $6n^3 - 3n^5$

5) $-6r^5 - 6r^4$

6) $63x^{12} - 35x^6$

7) $14a + 21a^2 + 21a^3$

8) $10n^3 - 9n^2 + n$

9) $-28v^2 - 8v - 36$

10) $-8x^7 + 24x^6 + 12x^5$

11) $20 - 35n^2 - 20n^3$

12) $9x^6 - 63x^3 - 90x^2$

13) $-3k^3 + 15k^2 - 6k$

14) $50p^3 + 50p^2 - 20$

15) $32n^3 + 28n - 20$

16) $-90x^5 + 100x + 60$

17) $3m^2 + 9m + 27$

18) $12r^2 + 4r - 12$

19) $64 + 40x^2 + 72x$

20) $-18n^2 + 15n - 15$

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Factor the common factor out of each expression.

1) $16p^4 + 4p^3$

$4p^3(4p + 1)$

2) $9x + 36$

$9(x + 4)$

3) $63 + 45b$

$9(7 + 5b)$

4) $6n^3 - 3n^5$

$3n^3(2 - n^2)$

5) $-6r^5 - 6r^4$

$-6r^4(r + 1)$

6) $63x^{12} - 35x^6$

$7x^6(9x^6 - 5)$

7) $14a + 21a^2 + 21a^3$

$7a(2 + 3a + 3a^2)$

8) $10n^3 - 9n^2 + n$

$n(10n^2 - 9n + 1)$

9) $-28v^2 - 8v - 36$

$-4(7v^2 + 2v + 9)$

10) $-8x^7 + 24x^6 + 12x^5$

$4x^5(-2x^2 + 6x + 3)$

11) $20 - 35n^2 - 20n^3$

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

12) $9x^6 - 63x^3 - 90x^2$

$9x^2(x^4 - 7x - 10)$

13) $-3k^3 + 15k^2 - 6k$

$3k(-k^2 + 5k - 2)$

14) $50p^3 + 50p^2 - 20$

$10(5p^3 + 5p^2 - 2)$

15) $32n^3 + 28n - 20$

$4(8n^3 + 7n - 5)$

16) $-90x^5 + 100x + 60$

$10(-9x^5 + 10x + 6)$

17) $3m^2 + 9m + 27$

$3(m^2 + 3m + 9)$

18) $12r^2 + 4r - 12$

$4(3r^2 + r - 3)$

19) $64 + 40x^2 + 72x$

$8(8 + 5x^2 + 9x)$

20) $-18n^2 + 15n - 15$

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