

Factoring Review

Factor each completely.

1) $21x^3 - 126x^2 - 49x + 294$

$$7(3x^2 - 7)(x - 6)$$

2) $42n^3 + 294n^2 + 12n + 84$

$$6(7n^2 + 2)(n + 7)$$

3) $n^2 + 3n - 70$

$$(n + 10)(n - 7)$$

4) $m^2 - 4m - 60$

$$(m + 6)(m - 10)$$

5) $n^3 + 3n^2 - 18n$

$$n(n - 3)(n + 6)$$

6) $n^3 + 10n^2$

$$n^2(n + 10)$$

7) $x^2 - 9xy - 10y^2$

$$(x - 10y)(x + y)$$

8) $x^2 + xy - 12y^2$

$$(x + 4y)(x - 3y)$$

9) $m^2 + 16mn + 60n^2$

$$(m + 6n)(m + 10n)$$

10) $2x^2 - 12xy - 54y^2$

$$2(x - 9y)(x + 3y)$$

11) $15p^2 - 48p - 135$

$3(5p + 9)(p - 5)$

12) $5p^2 - 42p - 80$

$(5p + 8)(p - 10)$

13) $-10n^2 - 100n$

$-10n(n + 10)$

14) $-9k^2 - 13k - 4$

$-(k + 1)(9k + 4)$

15) $m^3 - 64$

$(m - 4)(m^2 + 4m + 16)$

16) $-8u^3 - 1$

$(-2u - 1)(4u^2 - 2u + 1)$

17) $8a^3 - 1$

$(2a - 1)(4a^2 + 2a + 1)$

18) $64m^3 - 27$

$(4m - 3)(16m^2 + 12m + 9)$

19) $-64x^3 + 1$

$(-4x + 1)(16x^2 + 4x + 1)$

20) $54 - 16u^3$

$2(3 - 2u)(9 + 6u + 4u^2)$

Solve each equation by factoring.

21) $3x^2 - 25x + 28 = 0$

$(3x - 4)(x - 7)$

22) $5r^2 + 9r + 4 = 0$

$\left(-\frac{4}{5}, -1\right)$

Factoring Review

Factor each completely.

1) $21x^3 - 126x^2 - 49x + 294$

2) $42n^3 + 294n^2 + 12n + 84$

3) $n^2 + 3n - 70$

4) $m^2 - 4m - 60$

5) $n^3 + 3n^2 - 18n$

6) $n^3 + 10n^2$

7) $x^2 - 9xy - 10y^2$

8) $x^2 + xy - 12y^2$

9) $m^2 + 16mn + 60n^2$

10) $2x^2 - 12xy - 54y^2$

11) $15p^2 - 48p - 135$

12) $5p^2 - 42p - 80$

13) $-10n^2 - 100n$

14) $-9k^2 - 13k - 4$

15) $m^3 - 64$

16) $-8u^3 - 1$

17) $8a^3 - 1$

18) $64m^3 - 27$

19) $-64x^3 + 1$

20) $54 - 16u^3$

Solve each equation by factoring.

21) $3x^2 - 25x + 28 = 0$

22) $5r^2 + 9r + 4 = 0$