

Calculus Missing Coefficients Practice #1

Calculate the missing coefficient(s):

- $9x^3 + 27x^2 + 64x + k$ if $(x + 3)$ is a factor
- $45x^3 + ax^2 + 37x + 5$ if $(9x^2 + 12x + 5)$ is a factor
- $bx^3 - 4x^2 + 31x - 26$ if $(3x - 2)$ is a factor
- $ax^3 + bx^2 + 101x + 185$ if $(x^2 - 2x + 37)$ is a factor
- $75x^3 - 155x^2 + 161x + k$ if $(3x - 5)$ is a factor
- $5x^3 + ax^2 + bx - 36$ if $(x^2 + 36)$ is a factor
- $18x^3 - 57x^2 + 130x + k$ if $(2x - 5)$ is a factor
- $8x^3 + ax^2 + bx + 3$ if $(2x^2 - 2x + 1)$ is a factor
- $32x^3 - 32x^2 + kx - 15$ if $(2x - 3)$ is a factor
- $ax^3 - 15x^2 + 34x + b$ if $(9x^2 + 6x + 26)$ is a factor

Calculate the other factors:

- $2x^3 - 31x^2 + 43x + k$ if $(x - 8)$ is one factor
- $kx^3 + 113x^2 + 195x - 56$ if $(4x - 1)$ is one factor
- $15x^3 + 31x^2 + kx - 16$ if $(5x + 2)$ is one factor
- $12x^3 + 100x^2 + 183x + k$ if $(x + 6)$ is one factor
- $kx^3 - 59x^2 - 134x - 56$ if $(3x + 2)$ is one factor
- $3x^3 + kx^2 + 116x + 96$ if $(x - 8)$ is one factor
- $16x^3 + 130x^2 + kx - 24$ if $(8x - 3)$ is one factor
- $4x^3 + 23x^2 - 66x + k$ if $(x - 4)$ is one factor
- $2x^3 - 15x^2 + 18x + k$ if $(2x - 7)$ is one factor
- $kx^3 + 58x^2 + 53x - 42$ if $(4x + 7)$ is one factor

Answers: Calculus Missing Coefficients Practice #1

Calculate the missing coefficient(s):

1. $9x^3 + 27x^2 + 64x + 192$ $(x + 3)(9x^2 + 64)$
2. $45x^3 + 69x^2 + 37x + 5$ $(5x + 1)(9x^2 + 12x + 5)$
3. $24x^3 - 4x^2 + 31x - 26$ $(3x - 2)(8x^2 + 4x + 13)$
4. $3x^3 - 1x^2 + 101x + 185$ $(3x + 5)(x^2 - 2x + 37)$
5. $75x^3 - 155x^2 + 161x - 185$ $(3x - 5)(25x^2 - 10x + 37)$
6. $5x^3 - 1x^2 + 180x - 36$ $(5x - 1)(x^2 + 36)$
7. $18x^3 - 57x^2 + 130x - 250$ $(2x - 5)(9x^2 - 6x + 50)$
8. $8x^3 - 2x^2 - 2x + 3$ $(4x + 3)(2x^2 - 2x + 1)$
9. $32x^3 - 32x^2 - 14x - 15$ $(2x - 3)(16x^2 + 8x + 5)$
10. $18x^3 - 15x^2 + 34x - 78$ $(2x - 3)(9x^2 + 6x + 26)$

Calculate the other factors:

11. $2x^3 - 31x^2 + 43x + 616$ $(x - 8)(x - 11)(2x + 7)$
12. $12x^3 + 113x^2 + 195x - 56$ $(4x - 1)(x + 7)(3x + 8)$
13. $15x^3 + 31x^2 - 30x - 16$ $(5x + 2)(x - 1)(3x + 8)$
14. $12x^3 + 100x^2 + 183x + 90$ $(x + 6)(6x + 5)(2x + 3)$
15. $24x^3 - 59x^2 - 134x - 56$ $(3x + 2)(8x + 7)(x - 4)$
16. $3x^3 - 40x^2 + 116x + 96$ $(x - 8)(x - 6)(3x + 2)$
17. $16x^3 + 130x^2 + 13x - 24$ $(8x - 3)(2x + 1)(x + 8)$
18. $4x^3 + 23x^2 - 66x - 360$ $(x - 4)(x + 6)(4x + 15)$
19. $2x^3 - 15x^2 + 18x + 35$ $(2x - 7)(x - 5)(x + 1)$
20. $8x^3 + 58x^2 + 53x - 42$ $(4x + 7)(2x - 1)(x + 6)$