

Guía 1 Polinomios

(división)

Encuentre el cociente , $q(x)$, y el resto , $r(x)$ en las siguientes divisiones

1. $(x^2 + 3x - 3)/(x - 3)$
[R: $q(x) = x + 6$; $r(x) = 15$]
2. $(2x^3 - 3x + 1)/(x - 2)$
[R: $q(x) = 2x^2 + 4x + 5$; $r(x) = 11$]
3. $(x^3 + 2x^2 - 3x - 4)/(x + 2)$
[R: $q(x) = x^2 - 3$; $r(x) = 2$]
4. $(3x^4 + 11x^3 - 18x + 8)/(x - 4)$
[R: $q(x) = 3x^3 + 23x^2 + 92x + 350$; $r(x) = 1408$]
5. $(3x^3 - x^2 + x + 2)/(x + \frac{2}{3})$
[R: $q(x) = 3x^2 - 3x + 3$; $r(x) = 0$]
6. $(x^5 + 1)/(x + 1)$
[R: $q(x) = x^4 - x^3 + x^2 - x + 1$; $r(x) =$]
7. $(x^5 + x^4 - 4x^3 + 5x^2 - 7x + 6)/(x - 1)$
[R: $q(x) = x^4 + 2x^3 - 2x^2 + 3x - 4$; $r(x) = 2$]
8. $(6x^4 + 11x^3 - 35x^2 - 67x - 20)/(x + 7)$
[R: $q(x)6x^3 - 31x^2 + 182x - 1341 =$; $r(x) = 9367$]
9. $(4x^3 + 4x^2 - 29x + 21)/(2x - 3)$
[R: $q(x) = 2x^2 + 5x - 7$; $r(x) = 0$]
10. $(x^4 - 3x^3 - 5x^2 + 6x - 3)/(3x - 4)$
[R: $q(x) = \frac{1}{3}x^3 - \frac{5}{9}x^2 - \frac{65}{27}x - \frac{98}{81}$; $r(x) = -\frac{635}{813}$]
11. $(x^3 + 2x^2 + x - 2)/(x + i)$
[R: $q(x) = -2i + (2 - i)x + x^2$; $r(x) = -4$]
12. $(2x^4 + 3x^3 - 2x^2 + 3x - 4)/(x^2 + 1)$
[R : $q(x) = 2x^2 + 3x - 4$; $r(x) = 0$]
13. $(-3x^4 + 2x^3 + x^2 + x + 5)/(x^2 + 4x - 1)$

$$[\text{R: } q(x) = -3x^2 + 14x - 58 \quad ; r(x) = -53 + 247x]$$

14. $(2x^4 + x^3 + 6x^2 + 3x + 6)/(x^2 - x - 2)$
 $[\text{R: } q(x) = 2x^2 + 3x + 13 \quad ; r(x) = 32 + 22x]$

15. $(4x^5 - x^4 + 12x^3 + 2x^2 + x + 5)/(4x^3 - x^2 + 1)$
 $[\text{R: } q(x) = x^2 + 3 \quad ; r(x) = 2 + 4x^2 + x]$

16. $(13x^3 + 3x + 10x^5 - 16 - 18x^2 - 4x^4)/3 + 2x^2$
 $[\text{R: } q(x) = 5x^3 - 2x^2 - x - 6 \quad ; r(x) = 2 + 6x]$

17. $(9x^7 + 3x^5 + 18x^4 + 4x^3 + 11x^2 + 9x + 5)/(3x^4 - x^2 + 5x + 2)$
 $[\text{R: } q(x) = 3x^3 + 2x + 1 \quad ; r(x) = 3 + 2x^2]$

18. $(-10x^2y^2 - 78x^3y + 72x^4 + 3y^4 + 17xy^3)/(6x^2 - y^2 - 4xy)$
 $[\text{R: } q(x) = 12x^2 - 5xy - 3y^2 \quad ; r(x) = 0]$