

Math 3 Advanced

6.5 Practice Part 4 with KEY

Determine the remainder of a polynomial expression using synthetic division.

1. $(3x^3 + 10x^2 + 9x + 2) \div (x - 2)$

2. $(5x^3 - 12x^2 + 36x - 16) \div (x + 2)$

3. $(5x^3 - 4x^2 + 8x - 6) \div (x - 3)$

4. $(5x^3 + 7x^2 - 12x + 16) \div (x + 2)$

5. $(3x^3 - 17x^2 + 13x + 4) \div (3x - 2)$

6. $(6x^3 - 28x^2 + 19x + 3) \div (3x - 2)$

7. $(2a^3 - 7a^2 - 5a + 17) \div (2a + 3)$

8. $(2b^3 - 3b^2 - 8b + 4) \div (2b + 1)$

9. $(3x^3 - 2x - 180) \div (x - 4)$

10. $(2x^3 - 5x^2 + 7) \div (x + 2)$

11. $(3x^3 + 2x - 3) \div (x + 2)$

12. $(4x^3 - 10x^2 + 19) \div (x - 2)$

Answer List

1. $3x^2 + 16x + 41, R = 84$

3. $5x^2 + 11x + 41, R = 117$

5. $x^2 - 5x + 1, R = 6$

7. $a^2 - 5a + 5, R = 2$

9. $3x^2 + 12x + 46, R = 4$

11. $3x^2 - 6x + 14, R = -31$

2. $5x^2 - 22x + 80, R = -176$

4. $5x^2 - 3x - 6, R = 28$

6. $2x^2 - 8x + 1, R = 5$

8. $b^2 - 2b - 3, R = 7$

10. $2x^2 - 9x + 18, R = -29$

12. $4x^2 - 2x - 4, R = 11$