

Completely factor each of the following.

1. $5x - 6a + 2ax - 15 =$

2. $2a - 4x^2 + 2ax^2 - 4 =$

3. $5ax^3 - 5bx^3 + 5ax^2y - 5bx^2y =$

4. $3a - 3ax - 3ay + 3axy =$

5. $18m - 90n - 2mx^2 + 10nx^2 =$

6. $p^2x^2 - p^2y^2 - q^2x^2 + q^2y^2 =$

7. $2a^2by - 6a^2bt - 3a^2btx + a^2bxy =$

8. $2a^2b - 50b - 25bm^3 + a^2bm^3 =$

9. $2x^2 + 5x - 6x - 15 =$

10. $x^2 - 2x - 4x + 8 =$

Answers

Completely factor each of the following.

1. $5x - 6a + 2ax - 15 = (x - 3)(2a + 5)$

2. $2a - 4x^2 + 2ax^2 - 4 = 2(a - 2)(x^2 + 1)$

3. $5ax^3 - 5bx^3 + 5ax^2y - 5bx^2y = 5x^2(a - b)(x + y)$

4. $3a - 3ax - 3ay + 3axy = 3a(x - 1)(y - 1)$

5. $18m - 90n - 2mx^2 + 10nx^2 = 2(x + 3)(x - 3)(5n - m)$

6. $p^2x^2 - p^2y^2 - q^2x^2 + q^2y^2 = (x + y)(x - y)(p + q)(p - q)$

7. $2a^2by - 6a^2bt - 3a^2btx + a^2bxy = a^2b(x + 2)(y - 3t)$

8. $2a^2b - 50b - 25bm^3 + a^2bm^3 = b(a + 5)(a - 5)(m^3 + 2)$

9. $2x^2 + 5x - 6x - 15 = (2x + 5)(x - 3)$

10. $x^2 - 2x - 4x + 8 = (x - 2)(x - 4)$

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