

Algebra Review Worksheet

Factor the Following:

(1) $12x^2 - 25x + 12$

(2) $12x^2 - 145x + 12$

(3) $12x^2 - 40x + 12$

(4) $x^6 - 126x^3 + 125$

(5) $x^4 - (5x + 6)^2$

(6) $y^9 + 1$

(7) $x^2 - 10x + 25 - y^2$

(8) $25y^2 - 16x^2 + 24x - 9$

(9) $m^4 - m^2 + 24m - 144$

(10) $2x^3(x+2)^2 - 70x^2(x+2)$

(11) $(x^6 - 2)^2 - 5(x^6 - 2) - 6$

(12) $x^6 - 7x^3 - 8$

(13) $4x^3(x^4 - 4) - 32x^2(x^4 - 4) - 36x(x^4 - 4)$

Answers:

1. $(4x - 3)(3x - 4)$

2. $(12x - 1)(x - 12)$

3. $3(3x - 1)(x - 3)$

4. $(x - 5)(x^2 + 5x + 25)(x - 1)(x^2 + x + 1)$

5. $(x + 1)(x + 2)(x + 3)(x - 6)$

6. $(y + 1)(y^2 - y + 1)(y^6 - y^3 + 1)$

7. $(x - 5 + y)(x - 5 - y)$

8. $(5y + 4x - 3)(5y - 4x + 3)$

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

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

11. $(x^2 - 2)(x^4 + 2x^2 + 4)(x + 1)(x^2 - x + 1)(x - 1)(x^2 + x + 1)$ OR

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

12. $(x - 2)(x^2 + 2x + 4)(x + 1)(x^2 - x + 1)$

13. $4x(x^2 + 2)(x^2 - 2)(x - 9)(x + 1)$