

HWK 3.1 Factoring Polynomial Equations

1. Factor

b) $49x^2 - 1$ d) $64x^2 - 25y^2$

2. Factor

b) $x^2 - 11x + 30$ d) $y^2 - 2y - 63$

3. Factor

b) $4x^2 - 7x + 3$ d) $2x^2 - 9x + 4$

4. Factor

b) $25x^2 + 20x + 4$ d) $4y^2 - 20y + 25$

5. Determine whether $x + 5$ is a factor of the following polynomial.

b) $3x^2 + 13x - 10$

6. Determine whether $2x + 1$ is a factor of each polynomial.

a) $6x^2 - 13x - 8$ b) $2x^2 - 8$

7. Factor

a) $2x^2 - 50y^2$ b) $0.1x^2 - 0.001$

c) $20x^2 - 125y^2$ d) $\frac{1}{100}x^2 - \frac{1}{25}y^2$

8. Factor

b) $3x^2 - 9x - 30$

d) $x^2 + 2.5x - 1.5$

9. Factor each polynomial expression

a) $16(2x - 7)^2 - 25(y + 2)^2$

b) $121(x + 3)^2 - 36(2y - 5)^2$

10. Factor

b) $x^2 + \frac{3}{2}x + \frac{1}{2}$

d) $\frac{4}{3}x^2 - \frac{1}{12}y^2$

11. Consider the polynomial $3x^2 + nx - 4$.

Determine a value for n so that $3x - 2$ is a factor of the polynomial.

11. The value of n is 4.
10. b) $\frac{1}{12}(x+1)(2x+1)$ d) $\frac{1}{12}(4x+y)(4x-y)$
9. a) $(8x+5y-18)(8x-5y-38)$ b) $(11x+12y+3)(11x-12y+63)$
8. b) $3(x-5)(x+2)$ d) $\frac{1}{12}(2x-1)(x+3)$
- c) $5(2x+5y)(2x-5y)$ d) $\frac{1}{100}(x+2)(x-2)$
7. a) $2(x+5y)(x-5y)$ b) $\frac{1}{100}(10x+1)(10x-1)$
6. a) is a factor b) Not a factor
5. b) is a factor
4. b) $(5x+2)^2$ d) $(2x-5)^2$
3. b) $(x-1)(4x-3)$ d) $(x-4)(2x-1)$
2. b) $(x-5)(x-6)$ d) $(y-9)(y+7)$
1. b) $(7x+1)(7x-1)$ d) $(8x-5y)(8x+5y)$