

Factor polynomials

Completely factor each of the following expressions. If an expression cannot be factored, say so.

1. $(x + 3)^2 + (x + 3) - 6$
 2. $9x^2 + 30x + 25 - 16$
 3. $25x^2 - 10x + 1 - 4y^2$
 4. $16x^2 - 24x + 9 - 9y^2$
 5. $9x^2 - 42x + 49 - 81y^2$
 6. $(4x^2 - 12x + 9) - (y^2 + 4y + 4)$
 7. $(x^2 - 14x + 49) - (4y^2 + 20y + 25)$
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Answers to Exercise 1

(1) $(x + 6)(x + 1)$ **(2)** $3(x + 3)(3x + 1)$ **(3)** $(5x - 2y - 1)(5x + 2y - 1)$ **(4)**
 $(4x - 3y - 3)(4x + 3y - 3)$ **(5)** $(3x - 9y - 7)(3x + 9y - 7)$ **(6)** $(2x - y - 5)(2x + y - 1)$ **(7)** $(x - 2y - 12)(x + 2y - 2)$