

Factor perfect square trinomials

$$25x^2 + 10x + 1$$

$$100x^2 - 30x + 9$$

Factor perfect square trinomials

$$25x^2 + 10x + 1 = (5x + 1)^2$$

$$(5x)^2 \quad \uparrow \quad (1)^2$$
$$2(5x)(1) = 10x \quad \boxed{\text{Yes}}$$

$$100x^2 - 30x + 9$$

$$(10x)^2 \quad \cancel{\uparrow} \quad (3)^2$$
$$2(10x)(3) = 60x \quad \boxed{\text{NO}}$$

Not Factorable

Factor difference of squares

$$a^2 + 49$$

$$25 - 121d^2$$

Factor difference of squares

$$a^2 + 49$$

$$(a)^2 + (7)^2$$

↑
sum

Not factorable

$$25 - 121d^2$$
$$(5)^2 - (11d)^2$$

$$= (5 - 11d)(5 + 11d)$$

or

$$-1(121d^2 - 25)$$
$$(11d)^2 - (5)^2$$

$$= -1(11d - 5)(11d + 5)$$