

Factoring Special Trinomials

Show You Know

Ex. 1

Factor each binomial, if possible.

a) $49a^2 - 25$

b) $125x^2 - 40y^2$

c) $9p^2q^2 - 25$

Ex. 2

Factor each trinomial, if possible.

a) $x^2 - 24x + 144$

b) $y^2 - 18y - 81$

c) $3b^2 + 24b + 48$

Practice

1. Determine the product.

$(y + 5)^2$	$(3d + 2)^2$	$(4m - 5p)^2$
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2. Determine the missing terms that complete the factors or products.

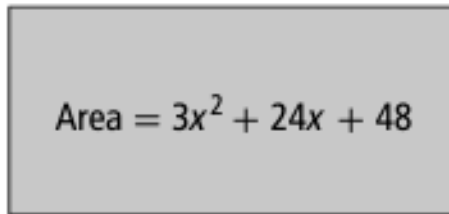
$n^2 - \underline{\quad} + 25$ $\rightarrow (n - \underline{\quad})^2$	$4s^2 + \underline{\quad} + 36$ $\rightarrow (\underline{\quad} + \underline{\quad})^2$	$(4x - \underline{\quad})^2$ $\rightarrow 16x^2 - \underline{\quad} + 4$
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3. An error was made in factoring the following trinomials or binomials. Identify the error. Then, factor correctly. a) b) c)

$4a^2 - b^2 = (2a - b)(2a - b)$	$9x^2 + 6x + 1 = (3x + 1)(3x + 2)$	$216 - 9y^2 = (16 - 3y)(16 + 3y)$
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4. The area of a rectangle can be represented by the trinomial


$$\text{Area} = 3x^2 + 24x + 48$$

- Factor the trinomial completely.
- If the length of the rectangle is triple the width, use the factors in part a) to represent the length and width.
- If x represents 5 cm, what are the length and the width of the rectangle?
- Calculate the area of the rectangle