

Factoring Trinomials

Show You Know

Ex. 1

Factor, if possible.

a) $x^2 + 7x + 10$

b) $r^2 - 10rs + 9s^2$

Ex. 2

Factor, if possible.

a) $2x^2 + 7x - 4$

b) $-3s^2 - 51s - 30$

c) $2y^2 + 7xy + 3x$

Ex. 3

A rescue worker launches a signal flare into the air from the side of a mountain. The height of the flare can be represented by the formula $h = -16t^2 + 144t + 160$. In the formula, h is the height, in feet, above ground, and t is the time, in seconds.

a) What is the factored form of the formula?

b) What is the height of the flare after 5.6 s?

Practice

1. Factor, if possible. a) b) c) d) e) f)

$y^2 + 8y + 12$	$x^2 + 10x + 21$	$a^2 - 19a + 90$
$y^2 - 4y - 6$	$m^2 - mn - 42n^2$	$b^2 + 19b + 34$

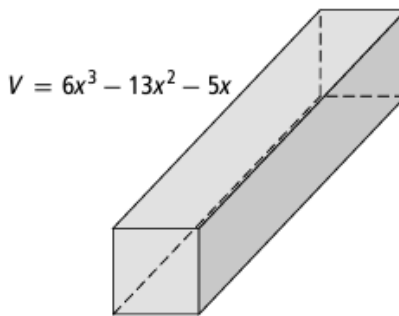
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2. Determine at least two values of d that allow each expression to be factored.

$a^2 + da + 6$	$w^2 + dw - 15$
$y^2 - dy + 18$	$r^2 - dr - 14$

3. The penalty area on a soccer field can be represented by the trinomial $6x^2 - 2x - 48$.
- Factor the trinomial to determine a binomial that represents the width and the length of the area.
 - The unit used for soccer fields is the yard. What are the dimensions of the area if $x = 12$ yd?

4. A rectangular prism has the volume as shown.



- Factor the expression that represents the volume to determine the length of each of the sides of the prism.
- If $x = 5$ cm, determine the lengths of the sides and the volume of the rectangular prism.