Applying the Discriminant – Video Notes and Practice

if $b^2 - 4ac > 0$	if $b^2 - 4ac = 0$	if $b^2 - 4ac < 0$
(positive discriminant)	(discriminant is zero)	(discriminant is negative)
then there are 2 solutions	then there is 1 repeated solution	then there are no real solutions

Sample:

$$-2x^2 - 8x - 14 = -6$$

How many solutions?

Solve to find the solutions.

Try One:

$$-10x^2 + 12x + 18 = -4x^2$$

How many solutions?

Solve to find the solutions.

From the Assessment

The quadratic below has one repeated solution. Solve for n by applying the discriminant.

$$nx^2 - 6nx + 45 = 0$$

Substitute the n value and solve.

Try One

The quadratic below has <u>one repeated solution</u>. Solve for *m* by applying the discriminant.

$mx^2 + 12mx + 108 = 0$

Substitute the n value and solve.

5. Find the value of r if $rx^2 - 3x + 9 = 0$:

(a) Has one solution.

(b) Has two unequal solutions.