

## Discriminating

ALWAYS, SOMETIMES or NEVER true:  $ax^2 + bx + c = 0$

(Page 1 of 2)

①

CMEP - Discriminating

If  $a < 0$ , then the equation has no real roots.

②

CMEP - Discriminating

If  $b^2 - 4ac = 0$ , then the equation has one repeated real root.

③

CMEP - Discriminating

If the equation has no real roots, then the equation  $ax^2 + bx - c = 0$  has two distinct real roots.

④

CMEP - Discriminating

If  $\frac{b^2}{a} < 4c$ , then the equation has two distinct real roots.

⑤

CMEP - Discriminating

If  $b = 0$ , then the equation has one repeated real root.

⑥

CMEP - Discriminating

The equation has three real roots.

## Discriminating

ALWAYS, SOMETIMES or NEVER true:  $ax^2 + bx + c = 0$

(Page 2 of 2)

⑦

CMEP - Discriminating

If  $c = 0$ , then the equation has no real roots.

⑧

CMEP - Discriminating

The equation has the same number of real roots as  
 $ax^2 - bx + c = 0$ .

⑨

CMEP - Discriminating

If the equation has two distinct real roots, then  $ac < \frac{b^2}{4}$ .

⑩

CMEP - Discriminating

If  $c > 0$ , then the equation has two distinct real roots.

⑪

CMEP - Discriminating

The equation has the same number of real roots as the  
equation  $cx^2 + bx + a = 0$ .

⑫

CMEP - Discriminating

If the equation has no real roots, then the equation  
 $-ax^2 - bx - c = 0$  has two distinct real roots.