

BE-1B

TUESDAY 2-18-07

SOLVE: first find the discriminant (d)
WHERE $d = b^2 - 4ac$ then, use
the QF WHERE $x = \frac{-b \pm \sqrt{d}}{2a}$

① $x^2 - 6x - 7 = 0$

② $w^2 - 11w = -30$ Be careful!

③ CAN EITHER OF THE
QUADRATIC EQUATIONS ABOVE
be SOLVED BY FACTORING?
JUSTIFY YOUR ANSWER.

TAKE OUT Homework — Pg 550
14 to 17

①

PHYSICAL MEANING BEHIND THE VARIOUS VALUES OF THE DISCRIMINANT.

THE QUADRATIC FUNCTION IS A
PARABOLA: $y = ax^2 + bx + c$

$$\text{OR } ax^2 + bx + c = y$$

THE PARABOLA CROSSES THE X AXIS
AT POINTS WHERE THE Y VALUE IS 0.
THESE POINTS ARE THE SOLUTION(S) TO
THE QUADRATIC EQUATION

$$0 = ax^2 + bx + c$$

$$\text{OR } ax^2 + bx + c = 0$$

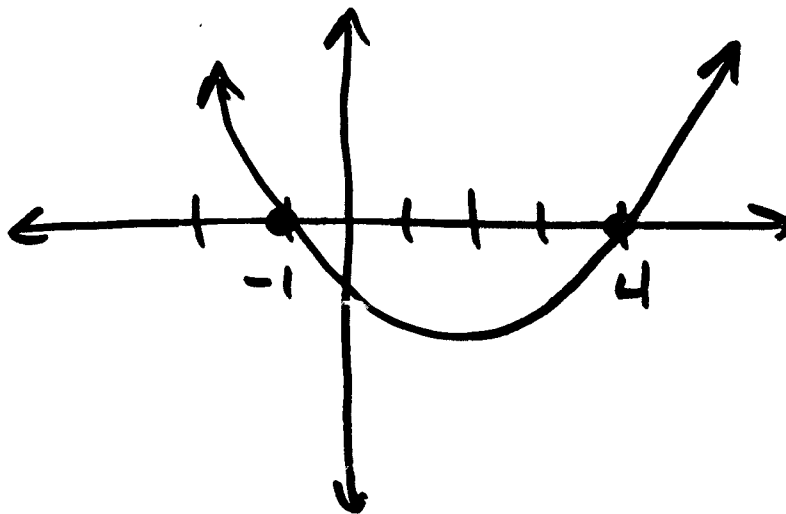
$y = 0$ for
ANY POINT ON
X-AXIS

SO WHAT DOES THIS MEAN?

EX

d is positive perfect square

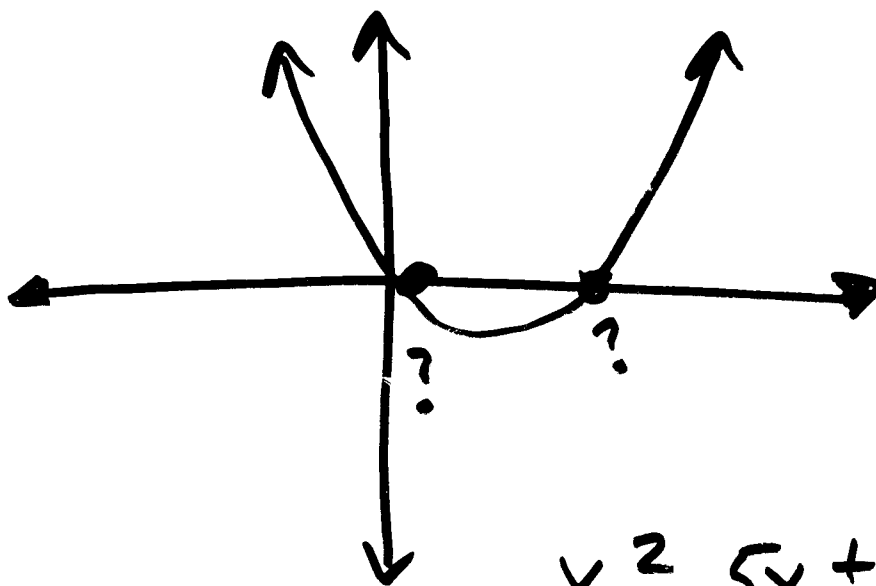
2



$$(x+1)(x-4) = 0$$

EX

d is positive, NOT A perfect square

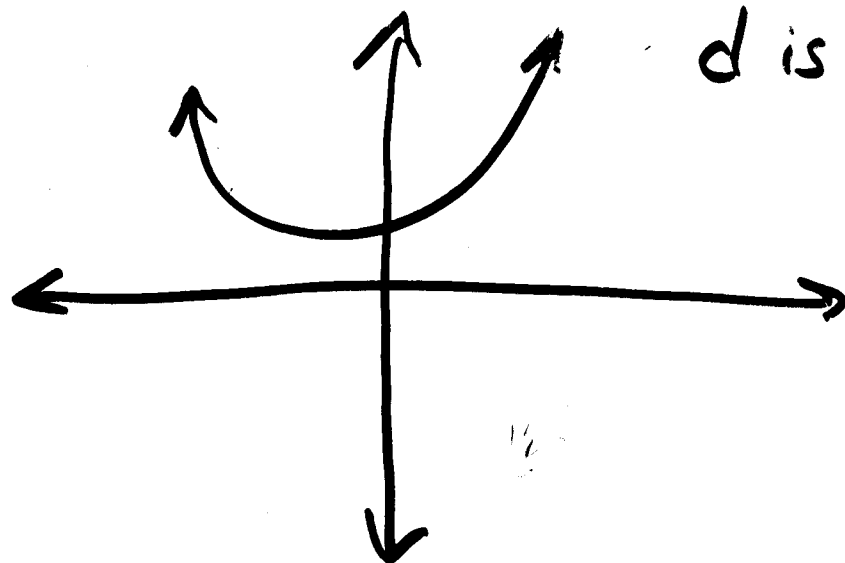


$$x^2 - 5x + 2 = 0$$

CAN ONLY APPROXIMATE ZEROS, QUADRATIC
CANNOT BE FACTORED

$$x = \frac{5 \pm \sqrt{17}}{2}$$

EX



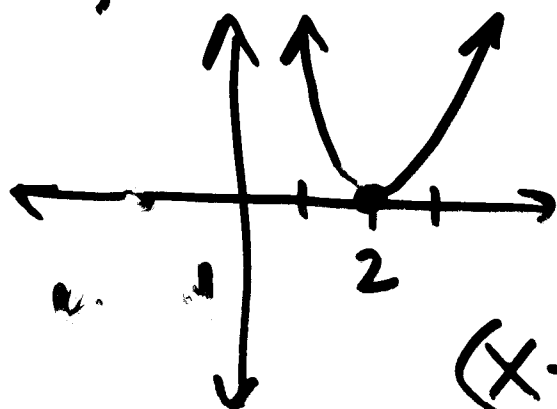
d is negative

3

PARABOLA NEVER CROSSES THE
X-AXIS $\Rightarrow$ NO REAL SOLUTION
TO $ax^2 + bx + c = 0$

EX

d is zero, it is a perfect
square,



$$(x-2)(x-2) = 0$$

Pg 550-551

3

4-7

18-20

38-41
