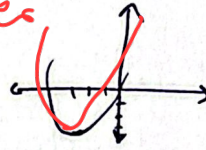


الف)  $y = x^2 + 6x + 5$

min  $\left| \begin{array}{l} \frac{-b}{2a} = \frac{-6}{2} = -3 \\ 9 - 18 + 5 = -4 \end{array} \right.$

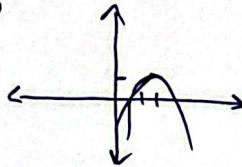
عرض از مبدأ = 0



1, 78

الف)  $y = -x^2 + 4x - 3$

max  $\left| \begin{array}{l} \frac{-b}{2a} = \frac{-4}{-2} = 2 \\ -4 + 8 - 3 = 1 \end{array} \right.$



ب)  $y = -x^2 + 4x - 3$   
 $x = \frac{c}{a} = 3$   
 جو ضرایب صفر است  $-(x^2 + 4x + 3) = 0$

$(x-1)(x-3) = 0$

عدد x را قطع نمی کند

1, 78

۲

0

2

۳

الف)  $x^2 - 2x + 1 = 0$

$(x-1)^2 = 0$

$x-1 = \pm\sqrt{0} \rightarrow x-1 = 0$

$x = 1$

$x = 1 + \sqrt{0}$

$x = 1 - \sqrt{0}$

ب)  $x^2 - x + \frac{1}{4} = \frac{5}{4}$

$(x - \frac{1}{2})^2 = \frac{5}{4}$

$x - \frac{1}{2} = \pm\sqrt{\frac{5}{4}}$

$x = \frac{1}{2} + \sqrt{\frac{5}{4}}$

$x = \frac{1}{2} - \sqrt{\frac{5}{4}}$

$x = \frac{1 \pm \sqrt{5}}{2}$

$x = \frac{1 + \sqrt{5}}{2}$

$x = \frac{1 - \sqrt{5}}{2}$

$x = \frac{1 - \sqrt{5}}{2}$

1, 8

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الف)  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{2 \pm \sqrt{4 + 4}}{2} = x(1 \pm \sqrt{2})$

ب)  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-1 \pm \sqrt{1 + 4}}{2} = \frac{-1 \pm \sqrt{5}}{2}$

$\Delta = b^2 - 4ac = (-1)^2 - 4(-2)(1) = 17$

1, 78

۵



الف)  $(x-4)(x-7) = 0$   
 $x = 4, 7$  ✓

2

ب)  $(x+7)(x-4) = 0$   
 $x = -7, 4$  ✓

9

الف)  $x^2 - 12x + 35 = 0$   
 $(x-7)(x-5) = 0$   
 $x = \frac{7}{5}, \frac{5}{5}$   
 $x = \frac{7}{5}, 1$  ✓

ب)  $x^2 - 10x + 21 = 0$   
 $(x-7)(x-3) = 0$   
 $x = \frac{7}{3}, \frac{3}{3}$   
 $x = 1, \frac{7}{3}$  ✓

7

الف)  $x^2 - 5x + 4 = 0$   
 $(x-4)(x-1) = 0$   
 $x = \frac{4}{1}, \frac{1}{1}$  ✓

ب)  $x^2 - 2x - 3 = 0$   
 $(x+1)(x-3) = 0$   
 $x = \frac{-1}{1}, \frac{3}{1}$  ✓

1

ج)  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{5 \pm \sqrt{17}}{2}$  ✓

د)  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-1 \pm \sqrt{17}}{2}$  ✓  
 معادله جواب ندارد

2

$s = \frac{-b}{a} = \frac{7}{1} = 7$

$p = \frac{c}{a} = \frac{-1}{1} = -1$

الف)  $s^2 - 2p = 9 - 2(-1) = 9 + 2 = 11$  ✓

ب)  $s^3 - 3sp = 17 - 3(7)(-1) = 17 + 21 = 38$  ✓

2

9

الف)  $\frac{1 \times 5 \times 4 \times 3 \times 2 \times 1}{1 \times 2 \times 3 \times 4 \times 5 \times 6} + \frac{9 \times 1}{1} = \frac{1}{6} + 9 = 9\frac{1}{6}$  ✓

ب)  $\frac{1 \times 9 \times 4 \times 1}{1 \times 2 \times 3 \times 4} = \frac{1 \times 4}{1 \times 2} = 2$  ✓

10