

# Τράπεζα Θεμάτων ΕΠΑΛ Άλγεβρα Β΄ Λυκείου



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**μμ μ**

**2.18808.**  $x - 3y = 7$  .

)  $\mu$   $(x, y) = (4, -1)$   $\mu$  ( 10)

)  $(4, -1)$   $\mu$   $\begin{cases} x - 3y = 7 \\ 2x + 3y = 8 \end{cases}$  ( 15)

**2.18812.**  $2x + 3y = 8$  .

)  $\mu$   $(x, y) = (1, 2)$   $\mu$  ( 10)

)  $(1, 2)$   $\mu$   $\begin{cases} 2x + 3y = 8 \\ x + y = 14 \end{cases}$  ( 15)

**2.18815.**  $x + 2y = 10$  (1).

)  $(2, 4), (-4, 7), (4, 3)$  (1); ( 12)

)  $\mu$   $\begin{cases} x + 2y = 10 \\ 3x - y = 2 \end{cases}$  ( 13)

**2.18818.**  $4x + y = 11$  (1).

)  $(2, 3), (0, 11), (1, 8)$   $(7, 0)$  (1); ( 12)

)  $\mu$   $\begin{cases} 4x + y = 11 \\ x + y = 7 \end{cases}$ ; ( 13)

**2.18821.**  $3x + y = 5$  (1)  $x + 4y = 9$  (2).

)  $(1, 2), (2, -1), (0, 5)$   $(9, 0)$  (1) ( 16)

)  $\mu$   $\mu$   $\begin{cases} 3x + 4y = 5 \\ x + 4y = 9 \end{cases}$  ( 9)

**2.18824.** )  $: \begin{vmatrix} 1 & 3 \\ 2 & 1 \end{vmatrix} = -5, \begin{vmatrix} 10 & 3 \\ 5 & 1 \end{vmatrix} = -5, \begin{vmatrix} 1 & 10 \\ 2 & 5 \end{vmatrix} = -15$  ( 10)

)  $\mu$   $\begin{cases} x + 3y = 10 \\ 2x + y = 5 \end{cases}$  ( 15)

**2.18827.** )  $: \begin{vmatrix} 2 & 1 \\ 1 & 5 \end{vmatrix} = 9, \begin{vmatrix} 9 & 1 \\ 9 & 5 \end{vmatrix} = 36, \begin{vmatrix} 2 & 9 \\ 1 & 9 \end{vmatrix} = 9$  ( 15)

)  $\mu$   $\begin{cases} 2x + y = 9 \\ x + 5y = 9 \end{cases}$  ( 10)

**2.18830.** ) :  $\begin{vmatrix} 2 & -1 \\ 4 & -2 \end{vmatrix} = 0, \begin{vmatrix} 7 & -1 \\ 14 & -2 \end{vmatrix} = 0, \begin{vmatrix} 2 & 7 \\ 4 & 14 \end{vmatrix} = 0$  ( 9)  
 )  $\mu$  :  $\begin{cases} 2x - y = 7 \\ 4x - 2y = 14 \end{cases}$  ( 16)

**2.18833.** ) :  $\begin{vmatrix} 2 & 11 \\ 1 & 3 \end{vmatrix} = -5, \begin{vmatrix} 11 & -3 \\ 3 & -4 \end{vmatrix} = -35, \begin{vmatrix} 2 & -3 \\ 1 & -4 \end{vmatrix} = -5$  ( 9)  
 )  $\mu$  :  $\begin{cases} 2x - 3y = 11 \\ x - 4y = 3 \end{cases}$  ( 16)

**2.18836.** ) :  $\begin{vmatrix} 3 & 1 \\ 6 & 2 \end{vmatrix} = 0, \begin{vmatrix} 8 & 1 \\ 8 & 2 \end{vmatrix} = 8, \begin{vmatrix} 3 & 8 \\ 6 & 8 \end{vmatrix} = -24$  ( 9)  
 )  $\mu$  :  $\begin{cases} 3x + y = 8 \\ 6x + 2y = 8 \end{cases}$  ( 16)

**2.18839.** )  $\mu$   $\begin{cases} 2x - y = 8 \\ 3x + y = 17 \end{cases}$  ( 15)  
 )  $\mu$   $\mu$  ( )  
 $4x - 2y = 16.$  ( 10)

**2.18842.** )  $\mu$   $\begin{cases} x + 2y = 7 \\ 4x - y = 10 \end{cases}$  ( 15)  
 )  $\mu$   $\mu$  ( )  
 $2x + 4y = 14.$  ( 10)

**2.18845.** )  $\mu$   $\begin{cases} 3x - 2y = 1 \\ 4x + 6y = 10 \end{cases}$  ( 15)  
 )  $\mu$   $\mu$  ( )  
 $6x - 4y = 1$  ( 10)

**2.18848.** )  $\mu$   $x = 1$   $y = 3$   $\mu$   
 :  
 i)  $3x + y = 6$  ii)  $x + 2y = 7$  ( 12)  
 )  $\mu$   $\begin{cases} 3x + y = 6 \\ x + 2y = 7 \end{cases}$   
 (1,3)  $\mu$  ; ( 13)

**2.18852.** )  $\mu$   $x = 4$   $y = 1$   $\mu$   
 : i)  $4x + 3y = 19$  ii)  $x + 6y = 10$  ( 12)  
 )  $\mu$   $\begin{cases} 4x + 3y = 19 \\ x + 6y = 10 \end{cases}$   
 (4,1)  $\mu$  ; ( 13)

**2.18856.** )  $\mu$   $x = 4$   $y = 3$   $\mu$   
 : i)  $4x - y = 13$  ii)  $2x + 3y = 10$  ( 12)

)  $\mu \begin{cases} 4x - y = 13 \\ 2x + 3y = 10 \end{cases}$  (4,3)  $\mu$  ; ( 13)

**2.18859.** )  $\mu \begin{cases} 3x + y = 1 \\ 6x + 2y = 1 \end{cases}$  ( 15)  
 )  $\left(\frac{1}{4}, \frac{1}{3}\right)$  :  
 $3x + y = 1$   $6x + 2y = 1$  ( 10)

**2.18862.** )  $\mu \begin{cases} 2x - y = 3 \\ 6x - 3y = 6 \end{cases}$  ( 15)  
 )  $\left(\frac{1}{5}, \frac{1}{2}\right)$  :  
 $2x - y = 3$   $6x - 3y = 6$  ( 10)

**2.18865.** )  $\mu \begin{cases} x - 3y = 2 \\ 2x - 6y = 1 \end{cases}$  ( 15)  
 )  $\left(\frac{1}{3}, \frac{1}{7}\right)$  :  
 $x - 3y = 2$   $2x - 6y = 1$  ( 10)

**2.19128.**  $\mu \begin{cases} x + y = 7 \\ 2x - y = 5 \end{cases}$   
 )  $(x, y) = (3, 4)$   $\mu$  . ( 10)  
 )  $\mu$  . ( 15)

**2.19130.**  $\mu \begin{cases} x - y = 4 \\ x - 2y = 1 \end{cases}$   
 )  $(7, 3)$   $\mu$  . ( 10)  
 )  $\mu$  . ( 15)

**2.19132.**  $\mu : \begin{cases} x - y = 3 \\ 2x - 2y = 6 \end{cases}$   
 )  $(10, 7)$   $\mu$  . ( 10)  
 )  $\mu$  . ( 15)

**2.19135.**  $\mu \begin{cases} x + y = 3 \\ 4x + 4y = 6 \end{cases}$   
 )  $(2, 1)$   $\mu$  . ( 10)  
 )  $\mu$  . ( 15)

**4.19501.**

α)  $\mu \in \mathbb{R}$  ;  $\mu = 27$  ;  $\mu = 5$  ( 13)

β)  $\mu \in \mathbb{R}$  ;  $\mu = 5$  ;  $\mu = 12$  ( 12)

**4.19502.**

α)  $\mu \in \mathbb{R}$  ;  $\mu = 27$  ;  $\mu = 5$  ( 13)

β)  $\mu \in \mathbb{R}$  ;  $\mu = 5$  ;  $\mu = 12$  ( 12)

**4.19505.**

α)  $\mu \in \mathbb{R}$  ;  $\mu = 28 \text{ cm}$  ;  $\mu = 48 \text{ cm}$  ( 10)

β)  $\mu \in \mathbb{R}$  ;  $\mu = 28 \text{ cm}$  ;  $\mu = 48 \text{ cm}$  ( 15)

**4.19506.**

α)  $\mu \in \mathbb{R}$  ;  $\mu = 1376$  ;  $\mu = 730$  ;  $\mu = 1,2$  ;  $\mu = 2$  ( 10)

β)  $\mu \in \mathbb{R}$  ;  $\mu = 1376$  ;  $\mu = 730$  ;  $\mu = 1,2$  ;  $\mu = 2$  ( 15)

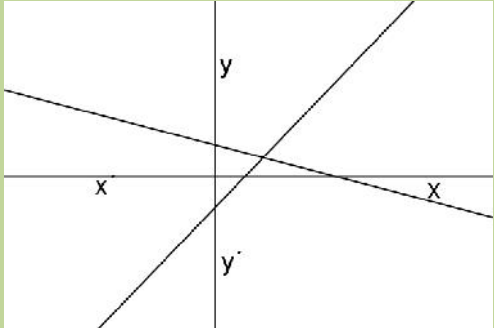
**4.19508.**

α)  $\mu \in \mathbb{R}$  ;  $\mu = 8$  ;  $\mu = 4$  ;  $\mu = 22$  ( 10)

β)  $\mu \in \mathbb{R}$  ;  $\mu = 8$  ;  $\mu = 4$  ;  $\mu = 22$  ( 15)

**4.19513.**

α)  $\begin{cases} 4x - 3y = 5 \\ 2x + 6y = 10 \end{cases}$  ;  $\begin{cases} 2x + y = 5 \\ 4x + 2y = 5 \end{cases}$  ( 12)



β)  $\mu \in \mathbb{R}$  ;  $\mu = 1$  ;  $\mu = 2$  ;  $\mu = 3$  ;  $\mu = 4$  ;  $\mu = 5$  ;  $\mu = 6$  ;  $\mu = 7$  ;  $\mu = 8$  ;  $\mu = 9$  ;  $\mu = 10$  ;  $\mu = 11$  ;  $\mu = 12$  ;  $\mu = 13$  ;  $\mu = 14$  ;  $\mu = 15$  ;  $\mu = 16$  ;  $\mu = 17$  ;  $\mu = 18$  ;  $\mu = 19$  ;  $\mu = 20$  ;  $\mu = 21$  ;  $\mu = 22$  ;  $\mu = 23$  ;  $\mu = 24$  ;  $\mu = 25$  ;  $\mu = 26$  ;  $\mu = 27$  ;  $\mu = 28$  ;  $\mu = 29$  ;  $\mu = 30$  ;  $\mu = 31$  ;  $\mu = 32$  ;  $\mu = 33$  ;  $\mu = 34$  ;  $\mu = 35$  ;  $\mu = 36$  ;  $\mu = 37$  ;  $\mu = 38$  ;  $\mu = 39$  ;  $\mu = 40$  ;  $\mu = 41$  ;  $\mu = 42$  ;  $\mu = 43$  ;  $\mu = 44$  ;  $\mu = 45$  ;  $\mu = 46$  ;  $\mu = 47$  ;  $\mu = 48$  ;  $\mu = 49$  ;  $\mu = 50$  ;  $\mu = 51$  ;  $\mu = 52$  ;  $\mu = 53$  ;  $\mu = 54$  ;  $\mu = 55$  ;  $\mu = 56$  ;  $\mu = 57$  ;  $\mu = 58$  ;  $\mu = 59$  ;  $\mu = 60$  ;  $\mu = 61$  ;  $\mu = 62$  ;  $\mu = 63$  ;  $\mu = 64$  ;  $\mu = 65$  ;  $\mu = 66$  ;  $\mu = 67$  ;  $\mu = 68$  ;  $\mu = 69$  ;  $\mu = 70$  ;  $\mu = 71$  ;  $\mu = 72$  ;  $\mu = 73$  ;  $\mu = 74$  ;  $\mu = 75$  ;  $\mu = 76$  ;  $\mu = 77$  ;  $\mu = 78$  ;  $\mu = 79$  ;  $\mu = 80$  ;  $\mu = 81$  ;  $\mu = 82$  ;  $\mu = 83$  ;  $\mu = 84$  ;  $\mu = 85$  ;  $\mu = 86$  ;  $\mu = 87$  ;  $\mu = 88$  ;  $\mu = 89$  ;  $\mu = 90$  ;  $\mu = 91$  ;  $\mu = 92$  ;  $\mu = 93$  ;  $\mu = 94$  ;  $\mu = 95$  ;  $\mu = 96$  ;  $\mu = 97$  ;  $\mu = 98$  ;  $\mu = 99$  ;  $\mu = 100$  ( 100)

( 13)

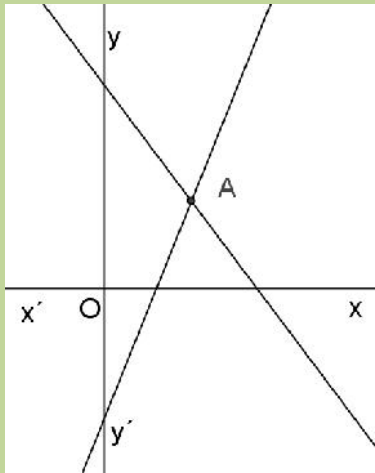
**4.19514.** ( 1)  $\mu$  :  $3x + 8y = 30$   
 )  $\mu$  ( 1)  $\mu$  ( 2)  $x + y = 5$ . ( 15)  
 )  $\mu$  ( 3)  $\mu$   $\mu$   $\mu$  ( 10)  
 ( 1) .

**4.19515.** ( 1)  $\mu$  :  $5x - 8y = 32$   
 )  $\mu$  ( 1)  $\mu$  ( 2)  $\frac{1}{2}x + y = 5$  ( 15)  
 )  $\mu$  ( 3)  $\mu$   $\mu$   $\mu$  ( 10)  
 ( 1) .

**4.19516.** ( 1)  $\mu$  :  $4x - \frac{3}{2}y = 10$ .  
 )  $\mu$  ( 1)  $\mu$  ( 2)  $x + \frac{1}{4}y = 5$ . ( 15)  
 )  $\mu$   $\mu$   $\mu$  ( 3) :  $12x - \frac{9}{2}y = \mu$  ( 10)  
 $\mu$   $\mu$  ( 1) .

**4.19517.**  $\mu$   $\begin{cases} 2x + y = 11 \\ 4x + 2y = \mu \end{cases}$   $\mu$   $\mu$  .  
 )  $\mu$   $\mu$   $\mu$  = 10. ( 15)  
 )  $\mu$   $\mu$   $\mu$   $\mu$  ( 5)  
 )  $\mu$   $\mu$   $\mu$   $4x + 2y = \mu$  ( 5)  
 $\mu$   $2x + y = 11$ .

**4.19520.**  $4x + 3y = 14$   $5x - 2y = 6$   $\mu$   
 $\mu$  .  
 )  $\mu$   $\begin{cases} 4x + 3y = 14 \\ 5x - 2y = 6 \end{cases}$  ; ( 5)  
 )  $\mu$   $\mu$  . ( 15)  
 )  $\mu$   $\mu$  ; ( 5)

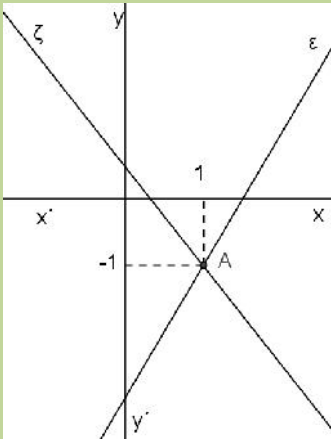


**4.19521.**  $\mu (\Sigma_1) \begin{cases} 2x - y = 3 \\ 4x - 2y = 6 \end{cases}$

)  $(\Sigma_1)$ . ( 10)

)  $\mu A(1,-1) \mu$   $(\Sigma_1)$ ; ( 5)

)  $\mu 2x - y = 3$   $(\mu)$   $\mu 4x - 2y = 6$ ;  $(\mu)$  ( 10)



**4.19522.**  $\mu (\Sigma_1) \begin{cases} 4x + y = 9 \\ 12x + 3y = 27 \end{cases}$

)  $(\Sigma_1)$ . ( 10)

)  $\mu A(2,1) \mu$   $(\Sigma_1)$ ; ( 5)

)  $\mu (\Sigma_1)$ ; ( 10)

**4.19528.**  $\mu \Sigma_1 \begin{cases} x + 3y = 1 \\ x + y = -3 \end{cases}, \mu \in \mathbb{R}$ .

)  $\Sigma_1 = 2$ . ( 12)

)  $\mu \mu, \mu \Sigma_1$ . ( 13)

**4.19529.**  $\mu \Sigma_1 \begin{cases} 4x + y = 5 \\ x + 2y = 10 \end{cases}, \mu \in \mathbb{R}$ .

)  $\Sigma_1 = 3$ . ( 12)

)  $\mu \mu, \mu \Sigma_1$ . ( 13)

**4.19533-4.19534.**  $\mu \mu x \text{ cm}, \mu \mu y \text{ cm}, \mu \mu 19 \text{ cm}, \mu \mu 33 \text{ cm}$ .

)  $\mu \mu x, y$ . ( 10)

)  $\mu \mu x, y$ . ( 15)

**4.19535.**  $\mu \mu 10, \mu \mu 947, \mu \mu 6.310, \mu \mu 5$ .

)  $\mu \mu 10, \mu \mu 947, \mu \mu 6.310, \mu \mu 5$ . ( 10)

)  $\mu \mu 5, \mu \mu 10, \mu \mu 6.310, \mu \mu 5$ . ( 15)

**2.19161.**

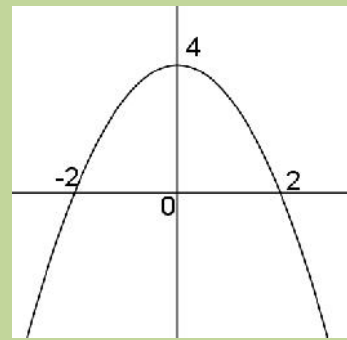
μ f μ μ ℝ.

) μ : f; ( 5)

) ;  
f(x) = -x<sup>2</sup>, f(x) = -x<sup>2</sup> + 4, f(x) = -x<sup>2</sup> - 4

) μ f(2) f(0). ( 10)

) μ f(2) f(0). ( 10)



**2.19162.**

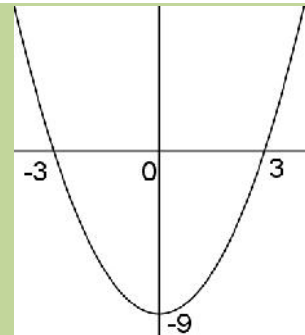
μ f μ μ ℝ.

) μ : f; ( 5)

) ;  
f(x) = x<sup>2</sup>, f(x) = x<sup>2</sup> - 9, f(x) = x<sup>2</sup> + 9

) μ f(-3) f(0). ( 10)

) μ f(-3) f(0). ( 10)



**2.19308.**

μ f μ μ ℝ.

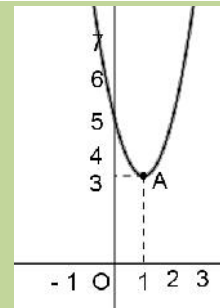
) μ : μ . ( 4)

) f; ( 7)

) μ f ( 14)

i)

ii)



**2.19316.**

μ f μ μ ℝ.

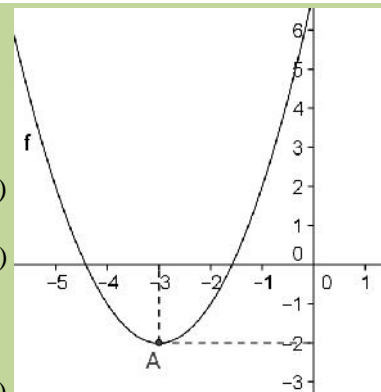
) μ : μ . ( 4)

) f; ( 7)

) μ f ( 14)

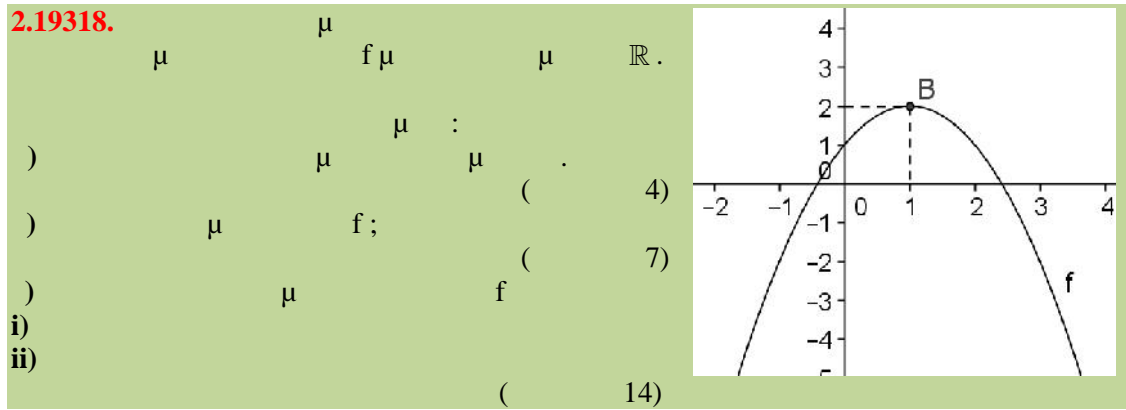
i)

ii)

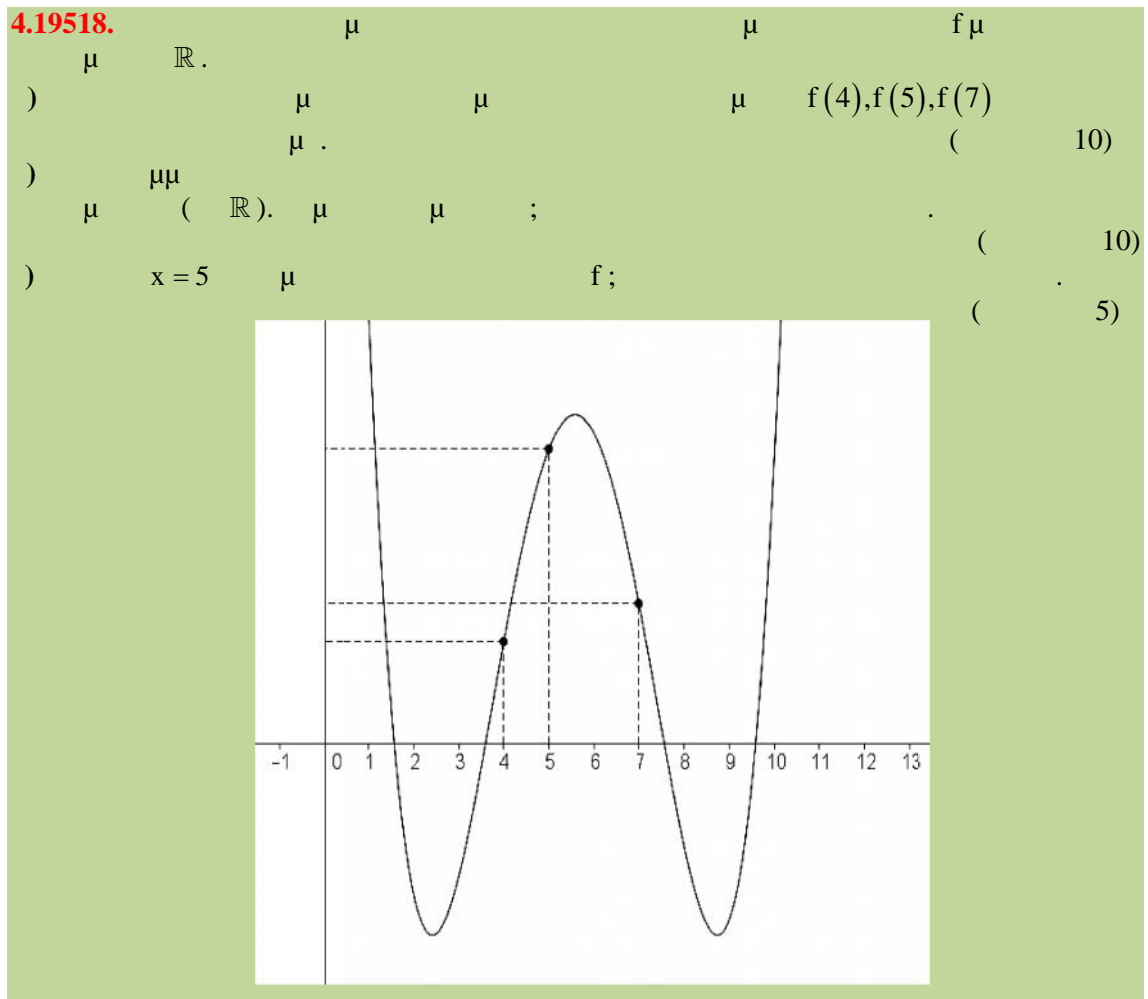




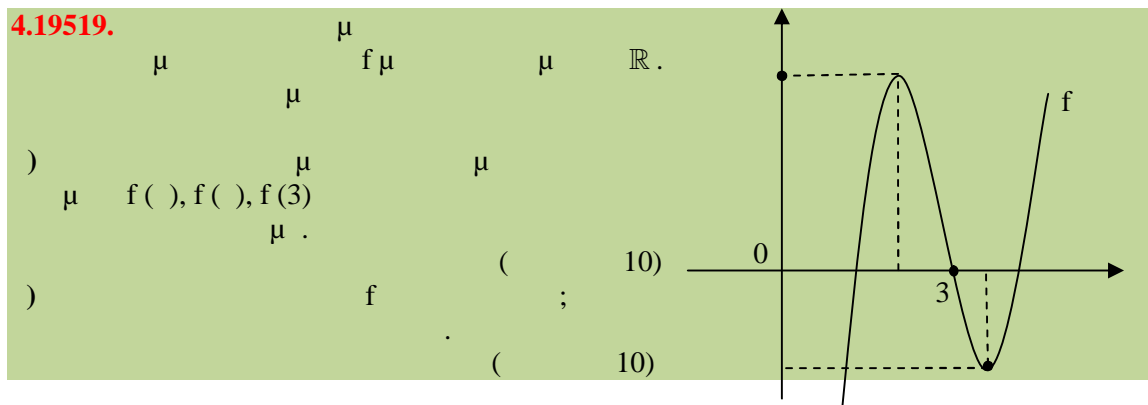
**2.19318.**



**4.19518.**



**4.19519.**

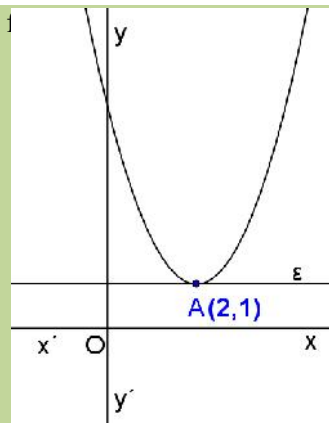


)  $f(x) = 0$ .  $\mu$  . ( 5)

**4.19524-4.19525.**

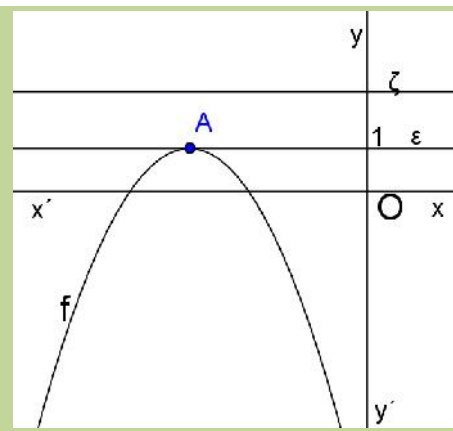
$\mu$   $\mu$   $\mathbb{R}$ .

- )  $f$   $\mu$   $x$  ( 6)
- ) ; ( )  $x x$  ( 5)
- )  $y = 1$ . ( 5)
- )  $f(x) = 1$ . ( 5)
- )  $\mu$   $\mu$   $\mu$   $\mu$  ( 9)
- )  $f(x) =$  .



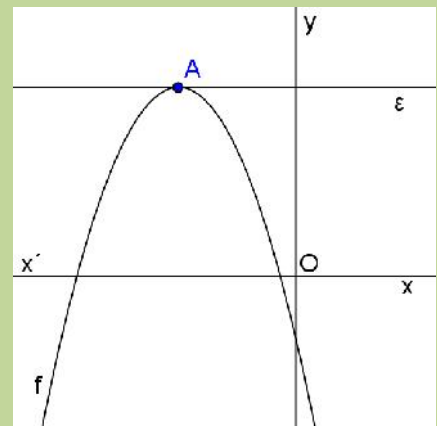
**4.19526.**

- )  $f \mu$   $\mu$   $\mathbb{R}$   $x = -3$ . ( 6)
- )  $\mu$   $f$ ;  $\mu$  ; ( 5)
- ) ( ); ( 7)
- ) ( ) ( ) ( 7)
- )  $y =$   $\in \mathbb{R}$  ,
- )  $f(x) =$  . ( 7)



**4.19527.**

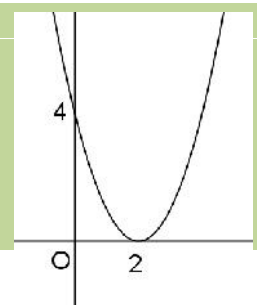
- )  $f \mu$   $\mu$   $\mathbb{R}$   $x = -2$ .  $\mu$   $\mu$  ; ( 10)
- ) ( ) ( 5)
- )  $x x$  .  $\mu$   $\mu$   $\mu$   $\mu$  ; ( 10)
- )  $\mu$  ( )  $y =$   $f$  ,



-  $\mu$   $\mu$

**2.19164.**

- )  $f \mu$   $\mu$   $\mathbb{R}$  .
- )  $\mu$  :  $f$ ; ( 5)
- ) ( )  $f$  ;



$f(x) = x^2$ ,  $f(x) = x^2 + 2$   $f(x) = (x-2)^2$   
 )  $\mu$   $f(2)$   $f(0)$ . ( 10)

**$\mu$**

**1  $\mu$**

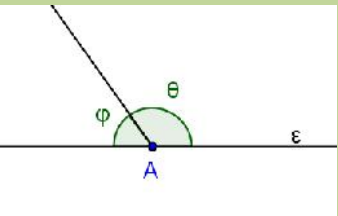
**2.18803.**  $= \frac{4}{5} \mu$   $0 < < \frac{1}{2}$ .  
 )  $\mu$  . ( 13)  
 )  $\mu$   $\mu$  ,  $\mu$  , ( 12)

**2.18810.**  $= \frac{4}{5} \mu$  ,  $0 < < \frac{1}{2}$   
 )  $\mu$  . ( 13)  
 )  $\mu$  ,  $\mu$  , ( 12)

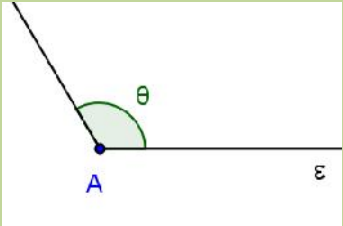
**2.18486.**  $= -\frac{3}{4} \mu$  ,  $\frac{1}{2} < < .$   
 )  $\mu$  . ( 13)  
 )  $\mu$  ,  $\mu$  , ( 12)

**2.18487.**  $\mu = \frac{3}{4} \mu$   $\frac{1}{2} < <$   
 ) . ( 13)  
 )  $\mu$  ,  $\mu$  , ( 12)

**2.19309.**  $\mu$  ( )  
 ) ;  
 )  $\mu$   $\mu$  ( 10)  
 $\mu = \frac{3}{5}$ .  
 i.  $\mu$   $\mu = \frac{3}{5}$  ;  
 ii.  $\mu$  . ( 15)



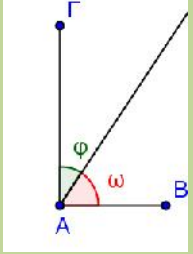
**2.19311.**  $\mu$  .  
 ) ;  
 ) ( 10)  
 )  $\mu = \frac{1}{4}$  . ( 15)



**2.19313.**  $\mu = \frac{2}{3}$  .  $\mu = \frac{\sqrt{5}}{3}$  .

)  $\mu = \frac{2}{3}$  . ( 7 )

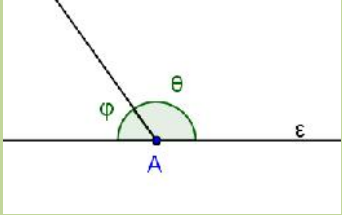
)  $\mu = \frac{\sqrt{5}}{3}$  . ( 18 )



**2.19314.**  $\mu = \frac{3}{5}$  .

)  $\mu = \frac{3}{5}$  . ( 15 )

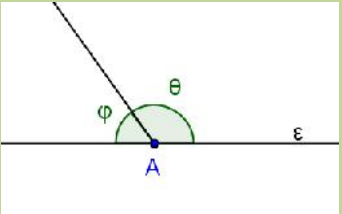
)  $\mu = \frac{3}{5}$  . ( 10 )



**2.19320.**  $\mu = -\frac{3}{4}$  .

)  $\mu = -\frac{3}{4}$  ; ( 10 )

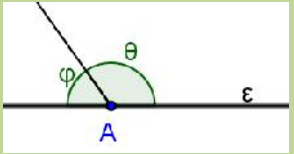
)  $\mu = -\frac{3}{4}$  . ( 15 )



**2.19321.**  $\mu = \frac{4}{5}$  .

)  $\mu = \frac{4}{5}$  . ( 15 )

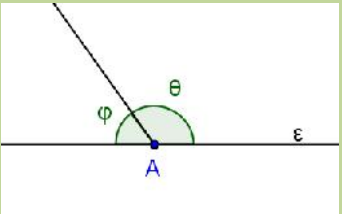
)  $\mu = \frac{4}{5}$  . ( 10 )



**2.19322 – 2.19323.**  $\mu = \frac{3}{5}$  .  $\mu = -\frac{4}{5}$  .

)  $\mu = \frac{3}{5}$  . ( 15 )

)  $\mu = -\frac{4}{5}$  . ( 15 )



**2.19324.**  $\mu = \frac{\sqrt{5}}{3}$  .  $\mu = \frac{2}{3}$  .

)  $\mu = \frac{\sqrt{5}}{3}$  . ( 7 )

)  $\mu = \frac{2}{3}$  . ( 18 )

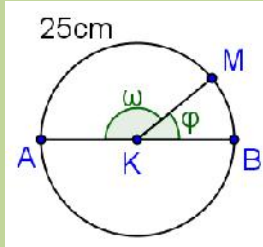


**4.19503-4.19504.**  $(\mu x + 1) \left( \mu x - \frac{2}{3} \right) = 0$  .

)  $\mu x = \frac{2}{3}$  . ( 9 )

)  $x \in \left(0, \frac{1}{2}\right)$  :  
 i.  $x$  ( 8)      ii.  $x$  ( 8)

**4.19507.** , ,  
 $\mu = 0,8$  .  
 )  $\mu$  ( 10)  
 )  $\mu = 20\text{cm}$   
 i)  $\mu = 25\text{cm}$  :  
 $\mu = 2,5 \text{ rad}$  ( ).  
 ii)  $N$   $\mu$   $\mu = 2,5 \text{ rad}$  ( ).  
 ( 5)



**4.19530.**  $\left(x + \frac{3}{5}\right)\left(x - \frac{1}{3}\right) = 0$ .  
 )  $x$  ( 9)  
 )  $x \in \left(\frac{1}{2}, \right)$  :  
 i.  $\mu x$  ( 8)      ii.  $x$  ( 8)

**4.19531.**  $(\mu x - 2)\left(\mu x - \frac{3}{5}\right) = 0$ .  
 )  $\mu x$  ( 13)  
 )  $x \in \left(\frac{1}{2}, \right)$  :  
 i.  $x$  ( 6)      ii.  $x$  ( 6)

**4.19532.**  $\left(x - \frac{1}{4}\right)(x + 2) = 0$ .  
 )  $x$  ( 13)  
 )  $x \in (0, )$  :  
 i.  $\mu x$  ( 6)      ii.  $x$  ( 6)

**ομ**

**2.19137.**  $f(x) = 2 \mu x \mu$   $\mu \in \mathbb{R}$ .  
 ) ; ( 5)  
 )  $\mu$  ; ( 10)  
 )  $f(0) = f(8)$ . ( 10)

**2.19138.**  $f(x) = 4 \mu x \mu$   $\mu \in \mathbb{R}$ .  
 ) ; ( 5)  
 )  $\mu$  ; ( 10)  
 )  $f(0) = f(6)$ . ( 10)

**2.19139.**  $f(x) = \frac{3}{2}x$   $\mu$   $\mu$   $\mathbb{R}$ .

) ; ( 5)  
 )  $\mu$  ; ( 10)  
 )  $f(0) = f(2)$ . ( 10)

**2.19140.**  $f(x) = 3x$   $\mu$   $\mu$   $\mathbb{R}$ .

) ; ( 5)  
 )  $\mu$  ; ( 10)  
 )  $f(0) = f(4)$ . ( 10)

**2.19141.**  $f(x) = \frac{1}{3}x$   $\mu$   $\mu$   $\mathbb{R}$ .

) ; ( 5)  
 )  $\mu$  ; ( 10)  
 ) :  $f(0) = f(2)$ . ( 10)

**2.19142.**  $f(x) = 0,5x$   $\mu$   $\mu$   $\mathbb{R}$ .

) ; ( 5)  
 )  $\mu$  ; ( 10)  
 )  $f(2) = f(4)$ . ( 10)

**2.19145-2.19151.**  $f(x) = 2x$   $\mu$   $\mu$   $\mathbb{R}$ .

) ; ( 5)  
 )  $\mu$  ; ( 10)  
 )  $f(\ ) = f(3)$ . ( 10)

**2.19148.**  $f(x) = -2x$   $\mu$   $\mu$   $\mathbb{R}$ .

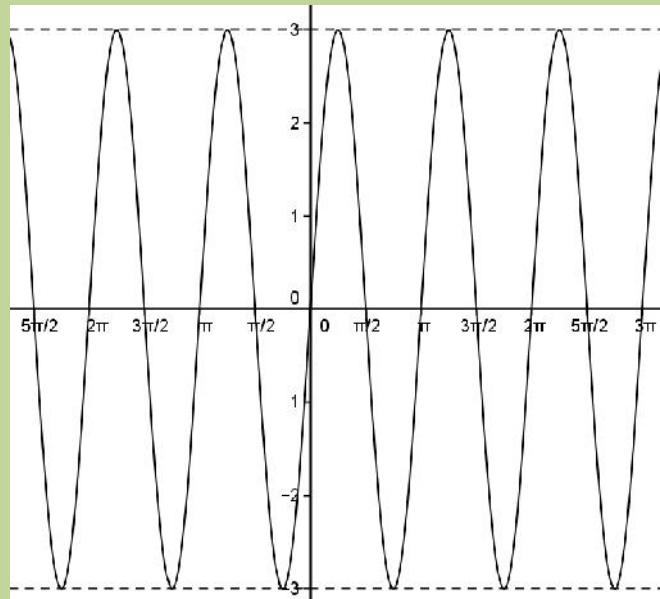
) ; ( 5)  
 )  $\mu$  ; ( 10)  
 )  $f(0) = f(4)$ . ( 10)

**2.19150.**  $f(x) = 4x$   $\mu$   $\mu$   $\mathbb{R}$ .

) ; ( 5)  
 )  $\mu$   $f(0), f(\ ), f(2)$ . ( 10)  
 ) :  $f(0) + f(\ ) = 0$ . ( 10)

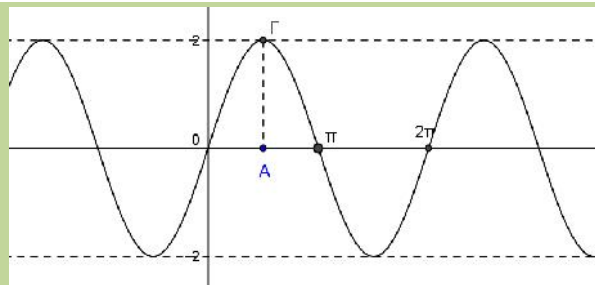
4.19509.

$\mu$   
 $\mu$   
 $\mu$        $\mu$   
 $\mu$        $\mu$   
 $\mu\mu$   
 «       $\mu$        $\mu$       ».  
 )       $\mu$        $\mu$   
 )       $\mu$       (      7)  
 ) i)      ;  
 ii)      (      8)  
 $\mu$        $\mu$        $\mu$       (      10)

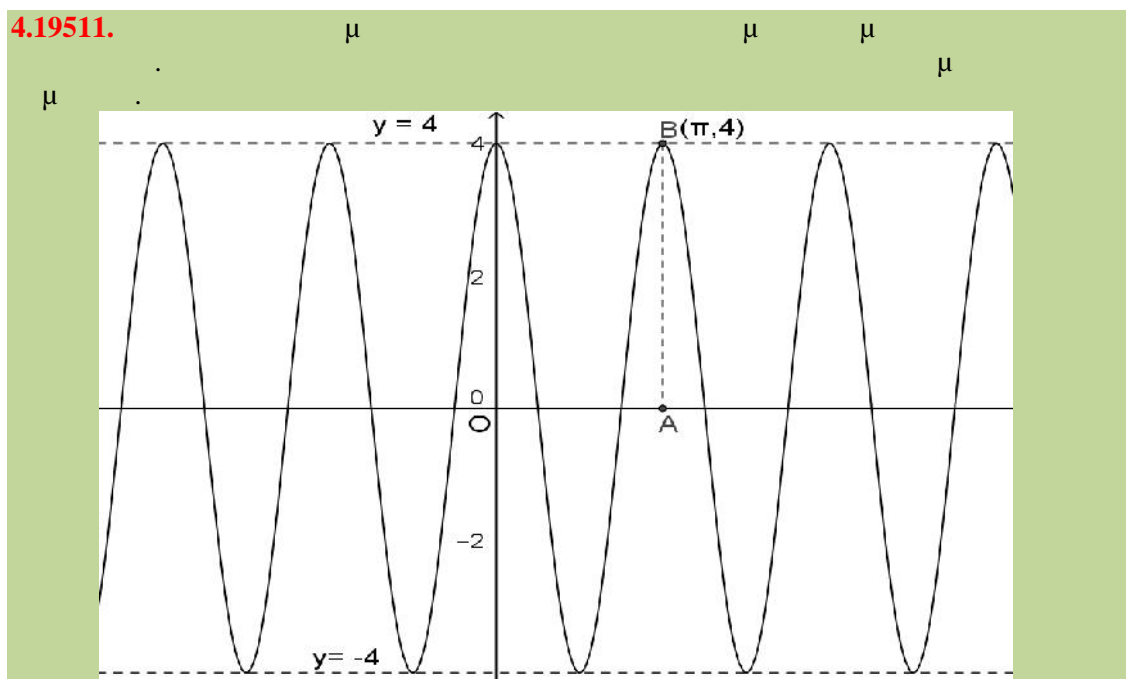


4.19510.

$\mu$        $\mu$        $\mu$   
 $\mu$  ,  
 $\mu$        $\mu$  .  
 $\mu$        $\mu$        $\mu$  .  
 $\mu$        $\mu$  .  
 )       $\mu$       ;      (      10)  
 ) N      (      5)  
 )       $\mu$        $\mu$       x       $\mu$        $\mu$        $\mu\mu$        $\mu$        $\mu$  .  
 (      10)

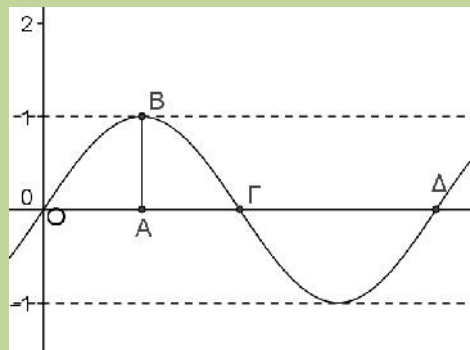


4.19511.



)  $\mu \mu \mu$  ( 5)  
 )  $\mu \mu x$  ( 15)  
 ) ( 5)

**4.19512.** )  $\mu$  1cm,  $\mu$  ( cm)  
 :  
 i) 1 (rad); ( 5) ii) 2 (rad); ( 5)  
 )  $\mu \mu \mu f.$   
 $\mu \mu \mu 1 \mu$   
 i)  $\mu \mu (x) \mu$  ; ( 3)  
 ii)  $\mu \mu \mu$  ; ( 4)  
 ii)  $f$  ;  
 $f(x) = \mu x$  ; ( 8)



**$\mu$**

**2.19153.** )  $\mu x = \frac{1}{2}$   $\mu \left[ \frac{1}{2}, \right]$  ( 12)  
 )  $\mu \mu x \mu \mu$  ( 13)

**2.19154.** )  $\mu x = \frac{\sqrt{3}}{2}$   $\mu \left[ 0, \frac{1}{2} \right]$  ( 12)  
 )  $\mu \mu x \mu \mu$  ( 13)

**2.19155 - 2.19158 - 2.19159.** )  $x = \frac{1}{2}$   $\mu \left[ 0, \frac{1}{2} \right]$  ( 12)  
 )  $\mu \mu x \mu \mu$  ( 13)

**2.19156.** )  $x \in \left[ \frac{1}{2}, \right]$   $x = -\frac{1}{2}$   $\mu x = \frac{\sqrt{3}}{2}$  ( 12)  
 )  $\mu x \mu \mu$  ( 13)

**2.19157.** )  $\mu x = \frac{\sqrt{2}}{2}$   $\mu \left[ 0, \frac{1}{2} \right]$  ( 13)  
 )  $\mu \mu \mu x \mu$  ( 12)

**2.19160.** )  $\mu x = \frac{\sqrt{3}}{2}$   $\mu \left[ 0, \frac{1}{2} \right]$  ( 13)  
 )  $\mu \mu \mu x \mu$  ( 12)



**4.19523.** )  $\mu x = \frac{1}{2}, \quad x \in [0, ] .$  ( 15)

)  $\mu x = -\frac{1}{2} \quad x \in \left[ -\frac{1}{2}, 0 \right]$   $\mu \quad x;$  ( 10)