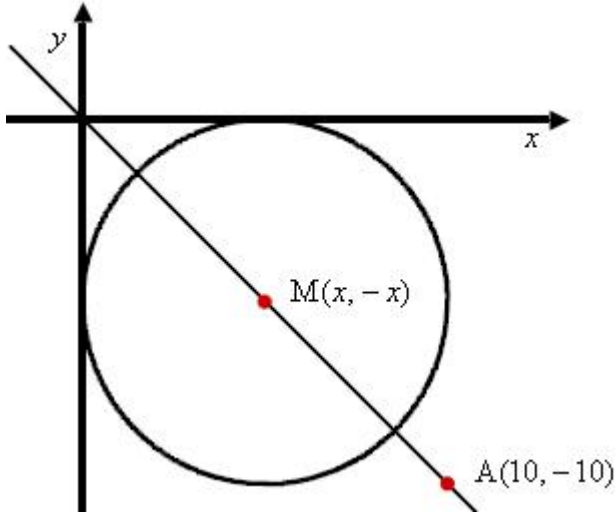


.10  $y = -x$

, A  $x -$  (1) .

$y_A = -10$

$y_A = -10 :$



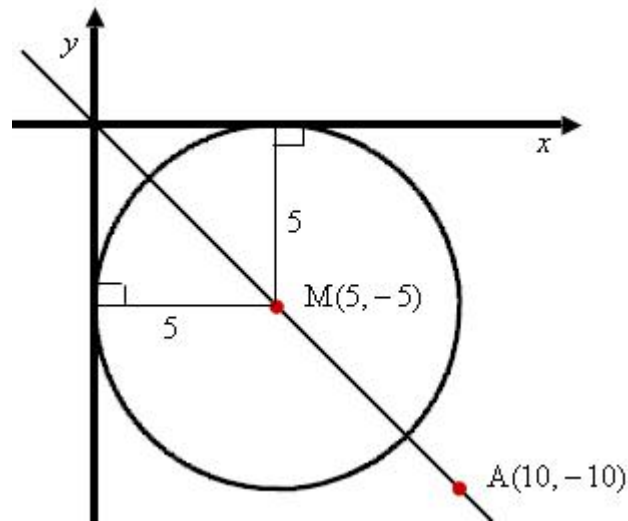
(0, 0)

A(10, -10)

(2)

$\sqrt{(10-0)^2 + (-10-0)^2} = \sqrt{200}$

$\sqrt{200} :$



$\sqrt{50}$  (0, 0)

M(x, -x)

$\sqrt{50} = \sqrt{(x-0)^2 + (-x-0)^2}$  ( )<sup>2</sup>

$50 = x^2 + x^2$

$50 = 2x^2$

$x^2 = 25$

$x = 5 \rightarrow \boxed{M(5, -5)} \leftarrow x_M > 0$

M(5, -5) :

.

, (1) .

.R = 5 : M(5, -5)

.5 :

5 M(5, -5) , (2)

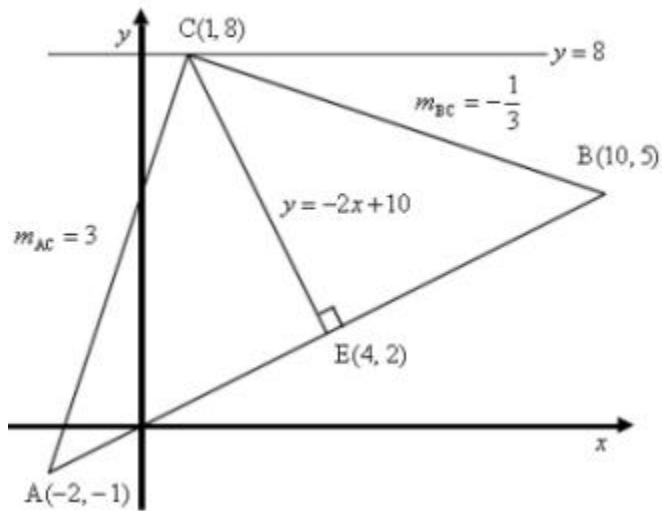
.  $(x-5)^2 + (y+5)^2 = 25$  :

A(10, -10)

$\sqrt{(10-5)^2 + (-10-(-5))^2} = \sqrt{50}$

$\sqrt{200} - \sqrt{50} = 7.07 = \sqrt{50} :$

.7.07  $\sqrt{50} :$



. AB E (1) .

$$\left. \begin{aligned} x_E &= \frac{-2+10}{2} = 4 \\ y_E &= \frac{-1+5}{2} = 2 \end{aligned} \right\} \boxed{E(4, 2)}$$

E(4, 2) :

AB

CE (2)

$$m_{AB} = \frac{-1-5}{-2-10} = \frac{-6}{-12} = \frac{1}{2} \rightarrow m_{CE} = -2$$

$m_{CE} = -2$  , E(4, 2) ,

$$CE \equiv y - 2 = -2(x - 4)$$

$$CE \equiv y - 2 = -2x + 8$$

$$CE \equiv \boxed{y = -2x + 10}$$

$$y = -2x + 10$$

:

C

$$y = 8$$

$$y = 8$$

$$8 = -2x + 10$$

$$2x = 2$$

$$x = 1 \rightarrow \boxed{C(1, 8)}$$

C(1, 8) :

$$. m_{AC} \cdot m_{BC} = -1 , .$$

$$m_{AC} = \frac{-1-8}{-2-1} = \frac{-9}{-3} = 3$$

$$m_{BC} = \frac{5-8}{10-1} = \frac{-3}{9} = -\frac{1}{3}$$

$$m_{AC} \cdot m_{BC} = 3 \cdot \left(-\frac{1}{3}\right) = -1 :$$

!

.5%

$$\frac{100-5}{100} \cdot y = 0.95y$$

 $x+6$ -  $x$ 

,( )

-  $y$ 

$xy$	$y$	$x$	
$0.95y(x+6)$	$0.95y$	$x+6$	

$$xy = 60 :$$

$$, \quad 60$$

$$0.95y(x+6) = 74.1 :$$

$$, \quad 74.1$$

:

$$\left\{ \begin{array}{l} (1) \quad xy = 60 \\ (2) \quad 0.95y(x+6) = 74.1 \end{array} \right.$$

$$(2) \quad 0.95xy + 5.7y = 74.1$$

$$0.95 \cdot 60 + 5.7y = 74.1 \quad \leftarrow xy = 60$$

$$57 + 5.7y = 74.1$$

$$5.7y = 17.1 \quad / : 5.7$$

$$\boxed{y = 3}$$

$$x \cdot y = 60$$

$$x \cdot 3 = 60 \quad / : 3$$

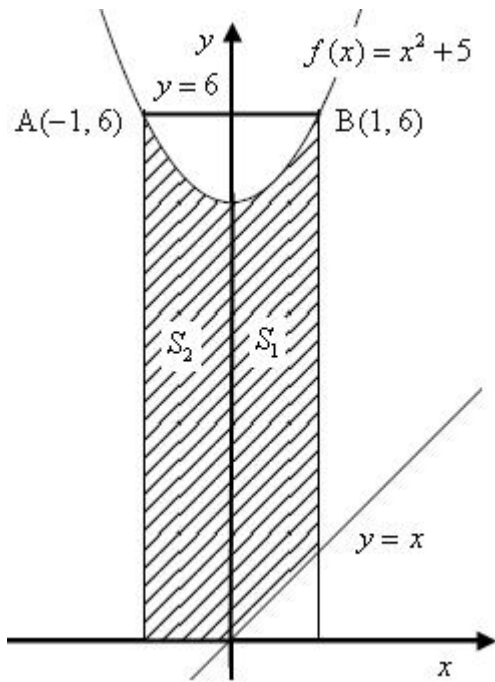
$$\boxed{x = 20}$$

20

:

3 ( )

:



$f(x) = x^2 + 5$ ,  $y = 6$

$B - A$   $x -$

$f(x) = x^2 + 5$

$x^2 + 5 = 6$

$x^2 = 1$

||||||||||||||||

$x_B = 1$

$x_A = -1$

$A$   $x -$

$B -$

$A$

$x_A = -1, x_B = 1 :$

$S_2 - S_1 :$

$S_2$	$S_1$	
$f(x) = x^2 + 5$	$f(x) = x^2 + 5$	
$y = 0$	$y = x$	1
$x = 0$	$x = 1$	$x$
$x = -1$	$x = 0$	$x$

$S_2 = \int_{-1}^0 (x^2 + 5) dx$

$S_1 = \int_0^1 (x^2 + 5 - x) dx$

$S_2 = \left[ \frac{x^3}{3} + 5x \right]_{-1}^0$

$S_1 = \left[ \frac{x^3}{3} + 5x - \frac{x^2}{2} \right]_0^1$

$S_2 = \left( \frac{0^3}{3} + 5 \cdot 0 \right) - \left( \frac{(-1)^3}{3} + 5 \cdot (-1) \right)$

$S_1 = \left( \frac{1^3}{3} + 5 \cdot 1 - \frac{1^2}{2} \right) - \left( \frac{0^3}{3} + 5 \cdot 0 - \frac{0^2}{2} \right)$

$S_2 = 0 - \left( -5\frac{1}{3} \right)$

$S_1 = 4\frac{5}{6}$

$S_2 = 5\frac{1}{3}$

$S_1 + S_2 = 4\frac{5}{6} + 5\frac{1}{3} = 10\frac{1}{6} :$

$10\frac{1}{6}$

:

$$(x \neq 0) f(x) = 4x - \frac{16}{x}$$

$$y = 0 \quad x =$$

$$4x - \frac{16}{x} = 0 \quad / \cdot x$$

$$4x^2 - 16 = 0$$

$$4x^2 = 16 \quad / : 4$$

$$x^2 = 4$$

$$x_1 = 2 \rightarrow \boxed{(2, 0)}$$

$$x_2 = -2 \rightarrow \boxed{(-2, 0)}$$

$(-2, 0)$  ,  $(2, 0)$  :

$(-2, 0)$  ,  $(2, 0)$

**(1)** .

$$\boxed{f'(x) = 4 + \frac{16}{x^2}}$$

$$f'(-2) = 4 + \frac{16}{(-2)^2} = 8$$

$$m = 8, \quad \begin{matrix} x_1 & y_1 \\ (-2, & 0) \end{matrix}$$

$$y - 0 = 8(x - (-2))$$

$$y = 8(x + 2)$$

$$\boxed{y = 8x + 16}$$

$$y - y_1 = m(x - x_1)$$

$$f'(2) = 4 + \frac{16}{2^2} = 8$$

$$m = 8, \quad \begin{matrix} x_1 & y_1 \\ (2, & 0) \end{matrix}$$

$$y - 0 = 8(x - 2)$$

$$\boxed{y = 8x - 16}$$

, (8)

$y = 8x + 16$  ,  $y = 8x - 16$  :

: **(2)**

$$f'(x) = 4 + \frac{16}{x^2}$$

$(x \neq 0)$  )  $x$   $f'(x) > 0$  ,

.  $x > 0$

.10

**מינימום**      **סכום ריבועי המספרים.**

.10-x

,x -

$$f(x) = x^2 + (10-x)^2$$

$$f(x) = x^2 + (10-x)(10-x)$$

$$f(x) = x^2 + 100 - 10x - 10x + x^2$$

$$f(x) = 2x^2 - 20x + 100$$

$$f'(x) = 4x - 20$$

$$0 = 4x - 20$$

$$-4x = 20$$

$$x = 5 \rightarrow 10 - x = 10 - 5 = 5$$

( )

$$f'(4) = 4 \cdot 4 - 20 < 0, \quad f'(6) = 4 \cdot 6 - 20 > 0$$

4	5	6	x
-	0	+	f'(x)
↘	Min	↗	

. x = 5 -

,5

$$5^2 + 5^2 = 50 :$$

$$f(5) = 2 \cdot 5^2 - 20 \cdot 5 + 100 = 50$$

.50