

1. $y - y_0 = \mu(x - x_0)$ (5)

2. μ

1. $y = 3x + 6$	$\mu = 0$
2. $x = 3y$	$\mu = 3$
3. $y = 3x$	$\mu = -3$
4. $x + 3y - 6 = 0$	$\mu = 1/3$
5. $y + 2 = 0$	$\mu = -1/3$
6. $3x + y - 3 = 0$	$\mu = 3$
7. $x = 3$	$\mu = 0$

(7)

3. $y = x + \mu$

1. $\vec{r}^2 = 4\vec{s}^2$ $\vec{r} = 2\vec{s}$ $\vec{r} = -2\vec{s}$

2. $\mu (,), (,) (0,0) \frac{1}{2}(|^2 + \}^2|$

3. $x \cdot y \sim \dots + y \cdot \hat{\epsilon} \dots = 0$ $\dots \in (0, f)$

4. $\hat{\epsilon} \in (\vec{i}, \vec{j}) = 0$ \vec{i}, \vec{j} μ μ $x'x$ $y'y$.

5. μ $M(1,2)$ μ

6. $y - 1 = \mu(x - 2)$

7. $(-2, 4)$ $x = -2$

8. $\mu (-2, 3)$ $() x + 3y - 6 = 0$

(8)

4. μ μ μ :

1. μ μ μ , .

2. μ

3. μ

4. μ $\vec{r} = (x, y)$

5. μ $\vec{r} = (x, y)$

(5)

$$\mu \quad (2,1) \quad xy.$$

1. $\mu \quad (5)$

2. μ

3. $\mu \quad xx' \quad \mu \quad (5)$

4. $\mu \quad (5)$

B5. μ
 $d=2. \quad (5M)$

$$(v_1) (\sim -1)x + 2\sim y = -2 \quad (v_2) 2\sim x + (\sim -1)y = \sim -1 \quad \mu \quad \sim \in \mathbb{R}.$$

1. $\mu \quad \mu \quad \mu \quad \mu \quad (7)$

2. $\mu \quad \mu \quad \mu$

3. $\mu \quad \mu \quad (1) \quad \mu \quad \vec{r} = (3, -6) \quad (6)$

4. $\mu \quad \mu \quad (2, 1-8) \quad \mu$

$\mu \mu \quad (3) \quad \mu \quad (1) \quad (2) \quad \mu \quad \mu.$

(6)

1. $(\}^2 + 3\} + 2)x + (2\}^2 - \} + 1)y + (-5\}^2 - \} - 4) = 0 \quad (1).$

$\mu \mu \quad \mu \quad \mu \quad (5)$

2. $\mu \quad \mu \quad : ()$

$x'x, () \quad y'y, () \quad (5)$

3. (1)

$\mu \quad \mu \quad (5)$

4. $(1) \quad (1) = 0 \quad \mu$

$\mu \quad \mu \quad x'x \quad y'y \quad (5)$

5. $x^2 - 4y^2 + 4x - 12y - 5 = 0 \quad (2) \quad (2) \quad (3)$

$\mu \quad \mu \quad (5)$

- 1.
- 2.
- 1-
- 2-
- 3-
- 4-
- 5-
- 6-
- 7-
- 3.
- 1-
- 2-
- 3-
- 4-
- 5-
- 6-
- 7-
- 8-
- 4.

$$1. y = \frac{1}{2}x \Rightarrow 1 = 2 \Rightarrow \frac{1}{2} = \frac{1}{2} \Rightarrow y = \frac{1}{2}x$$

$$2. y = -2x + 5$$

$$3. y = 0 \Rightarrow -2x + 5 = 0 \Rightarrow x = \frac{5}{2} \Rightarrow B\left(\frac{5}{2}, 0\right)$$

μ $(2,1) \mu$ $x'x$
 $x = 2$

$$B4. E = \frac{1}{2} \begin{vmatrix} 2-0 & 1-0 \\ \frac{5}{2} & 0 \end{vmatrix} = \frac{5}{4}$$

$$5.) \underline{\hspace{2cm}}$$

$$() \quad \mu \quad y-1 = \frac{3}{4}(x-2) \Rightarrow \frac{3}{4}x - y + 1 - 2 = 0$$

$$d(A, v) = 2 \Rightarrow \frac{|\frac{3}{4} \cdot 0 - 1 \cdot 0 + 1 - 2|}{\sqrt{\left(\frac{3}{4}\right)^2 + 1}} = 2 \Rightarrow \frac{|1-2|}{\sqrt{\left(\frac{3}{4}\right)^2 + 1}} = 2 \Rightarrow |1-2| = 2\sqrt{\left(\frac{3}{4}\right)^2 + 1} \Rightarrow$$

$$(1-2)^2 = 4\left(\left(\frac{3}{4}\right)^2 + 1\right) \Rightarrow \frac{3}{4}$$

$$) \underline{\hspace{2cm}}$$

$0(0,0)$ $d=2$ $(2,1) \mu$ $x = 2$

$$d=2 \quad x=2 \quad y-1 = -\frac{3}{4}(x-2)$$

$$1. \quad \mu \quad D \neq 0 \Rightarrow \sim \neq -1 \ \& \ \sim \neq \frac{1}{3}$$

$$2. \quad D = 0 \Rightarrow \sim = -1 \quad \sim = \frac{1}{3}$$

$$\underline{\mu = -1} \quad D = Dx = Dy = 0 \quad \mu \quad (\quad)$$

$$\underline{\mu = 1/3} \quad D = 0 \quad Dx, Dy \neq 0 \quad \mu \quad (\quad)$$

$$\begin{cases} x - y - 3 = 0 & (v_1) \\ x - y + 1 = 0 & (v_2) \end{cases}$$

$$\mu \quad (1) \quad x = 0 \quad y = -3 \quad (0, -3)$$

$$d(M, v_2) = \frac{|1 \cdot 0 - 1 \cdot (-3) + 1|}{\sqrt{1^2 + 1^2}} = 2\sqrt{2}$$

$$3. \quad \bar{r} // v_1 \Rightarrow \}r = \}v_1 \Rightarrow \frac{-6}{3} = \frac{-\sim + 1}{2\sim} \Rightarrow \sim = -\frac{1}{3}$$

$$4. \quad \begin{cases} x = 2 \\ y = 1 - 8 \end{cases} \Rightarrow y = 1 - 4x \Rightarrow 4x + y - 1 = 0 \quad (v_3) \quad (\quad \mu \quad)$$

$$(2) \quad \mu = 2$$

1.

$$A = 0 \Rightarrow 2\}^2 - 3\} + 1 = 0 \Rightarrow \} = 1 \quad \} = \frac{1}{2}$$

$$B = 0 \Rightarrow 5\}^2 - \} + 2 = 0 \quad < 0 \quad B \neq 0 \quad \mu \quad \mu$$

2.

$$) v // x'x \Rightarrow A = 0 \Rightarrow \} = 1 \quad \} = \frac{1}{2}$$

$$) v // y'y \Rightarrow B = 0$$

$$) \Delta z \dots t.r.f \quad O(0,0) \Rightarrow \Gamma = 0$$

3.

$$= 0 \quad (1) \quad 2x + y - 4 = 0$$

$$= 1 \quad (1) \quad 6x + 2y - 10 = 0$$

$$\mu \quad , \quad \mu \quad \mu \quad (1,2)$$

$$(\}^2 + 3\} + 2) \cdot 1 + (2\}^2 - \} + 1) \cdot 2 + (-5\}^2 - \} - 4) = 0 \Leftrightarrow 0 = 0$$

$$\mu \quad (1) \quad (1,2)$$

4.

$$=0 \quad (1) \quad 2x + y - 4 = 0 \quad (v_1)$$

$$\mu \quad \mu \quad \mu \quad :$$

$$x = 0 \Rightarrow y = 4 \quad A(0, 4)$$

$$y = 0 \Rightarrow x = 2 \quad B(2, 0)$$

$$\mu \quad (OAB) = \frac{1}{2} \begin{vmatrix} 0 & 4 \\ 2 & 0 \end{vmatrix} = 4 \quad \mu.$$

5.

$$x^2 - 4y^2 + 4x - 12y - 5 = 0 \Rightarrow$$

$$(x^2 + 4x + 4) - (4y^2 + 12y + 9) = 0 \Rightarrow$$

$$(x+2)^2 - (2y+3)^2 = 0 \Rightarrow$$

$$(x+2+2y+3)(x+2-2y-3) = 0 \Rightarrow$$

$$x+2y+5=0 \quad (v_2) \quad | \quad rZ \quad x-2y-1=0 \quad (v_3)$$

$$(1) \quad // \quad \vec{r} = (B, -A) = (2, -1)$$

$$(2) \quad // \quad \vec{s} = (-2, -1)$$

$$\hat{\epsilon}(\vec{r}, \vec{s}) = \frac{\vec{r} \cdot \vec{s}}{|\vec{r}| |\vec{s}|} = \frac{x_1 x_2 + y_1 y_2}{\sqrt{x_1^2 + y_1^2} \cdot \sqrt{x_2^2 + y_2^2}} = \frac{-4+1}{\sqrt{5} \cdot \sqrt{5}} = -\frac{3}{5}$$

H

μ

< 0

μ

$$180^\circ - \mu \quad \hat{\epsilon}(180^\circ - \mu) = -\hat{\epsilon}_\mu = \frac{3}{5}$$