

Subject:

Year: Month: Day: ()

Page: ()

19, 75

طراحی و تالیف

$$\frac{\Delta y}{\Delta x} = \frac{1+2}{2-0} = \frac{3}{-1} = -3$$

$$y = -3x + b \rightarrow 2 = -3 \cdot 1 + b \rightarrow b = 5$$

$$y = -3x + 5$$

1

$$5. \quad 2y + 4x = b \rightarrow 4 + 2 \cdot 2 = b = 8 \rightarrow 2y + 4x = 8$$

$$x + 3y = 1 \rightarrow -3x + y = b \rightarrow -3 \cdot 2 + 2 = b = -4$$

$$-3x + y = -4$$

$$m = \tan \frac{\pi}{4} = 1 \quad y = x + b \rightarrow 2 = 1 \cdot 2 + b \rightarrow b = 0 \quad y = x$$

$$\sqrt{9+14} = \Delta = \sqrt{(\Delta x)^2 + (\Delta y)^2}$$

2

$$10. \quad 3x + 4y = 2 \rightarrow \frac{4 \cdot 1 - 3}{\sqrt{9+16}} = \frac{1}{5} = \frac{1}{5}$$

$$2x + 3y = 5$$

$$2x + 3y = 4 \rightarrow 2x + 3y = \frac{1}{2} = \frac{1}{2}$$

2

$$15. \quad \frac{2x + 3y = 4}{2x + 3y = 5} \rightarrow \frac{2}{\sqrt{13}} = \frac{2\sqrt{13}}{13}$$

$$\frac{|2x + 3y + 1|}{\sqrt{13}} = \frac{|2x - 3y - 1|}{\sqrt{13}} \quad 2x - 3y - 1 = 2x + 3y - 3 \rightarrow 6y - 2 = 0 \rightarrow y = \frac{1}{3}$$

2

$$y = 2x + 5 \quad \tan \alpha = \frac{\Delta}{1 - \Delta^2} = 1 \Rightarrow \alpha = 45^\circ$$

2

$$20. \quad y = -3x + 3$$

$$\sqrt{1^2 + 4^2} = \sqrt{17} = \sqrt{17}$$

2

$$\left. \begin{array}{l} \frac{2-5}{2} = -\frac{3}{2} \\ \frac{3-2}{2} = \frac{1}{2} \end{array} \right\} \frac{1}{2}$$

$$25. \quad \left. \begin{array}{l} \frac{-1-2+3}{2} = -\frac{1}{2} \\ \frac{-1+2+1}{2} = \frac{1}{2} \end{array} \right\} \frac{1}{2}$$

2

$$\frac{1}{2} \begin{vmatrix} 2 & 1 & 1 \\ -2 & 2 & 1 \\ -1 & -1 & 1 \end{vmatrix} = \frac{1}{2} |94| = 47$$

30

Subject:

Year: Month: Day: ()

Page: ()

$$-y = \frac{rx+1}{rx-r} \rightarrow y = \frac{rx+1}{r-rx} \quad \checkmark$$

(2) - ^

$$y = \frac{-rx+1}{-rx-r} = \frac{rx-1}{rx+r} \quad \checkmark$$

$$5. x = \frac{ry+1}{ry-r} \rightarrow y = \frac{rx+1}{rx-r} \quad \checkmark$$

$$-x = \frac{-ry+1}{-ry-r} \rightarrow x = \frac{-ry+1}{ry+r} \rightarrow y = \frac{-rx+1}{rx+r} \quad \checkmark$$

$$10. \left. \begin{aligned} y'-r &= \frac{rx'+a}{x'-1} \\ y' &= \frac{rx'+a}{x'-1} + r \Rightarrow y' = \frac{ax'+r}{x'-1} \quad \checkmark \end{aligned} \right\} \begin{aligned} x &= x'+r \\ y &= y'+r \end{aligned}$$

(2)

$$15. \left. \begin{aligned} y'+r &= \frac{rx'+v}{x'} \\ y' &= \frac{rx'+v}{x'} - r = \frac{v}{x'} \quad \checkmark \end{aligned} \right\} \begin{aligned} x &= x'+r \\ y &= y'+r \end{aligned}$$

$$17. \left. \begin{aligned} rx+ry &= r \\ x-ay &= 1 \end{aligned} \right\} \begin{aligned} rx+ry &= r \\ rx-ay &= 1 \end{aligned} \rightarrow \begin{aligned} 19y &= -1 \quad \checkmark \\ x &= \frac{16}{19} \quad \checkmark \end{aligned}$$

(1, 16)

$$20. \left. \begin{aligned} rx+ry &= r \\ x-ay &= 1 \end{aligned} \right\} \begin{aligned} x &= \frac{16}{19} \\ y &= \frac{r-r}{-10-r} = \frac{-1}{19} \end{aligned}$$

P. 16

25

30