

24. B

1. C 2. A 3. B 4. 17

5. $y'' = 16x$

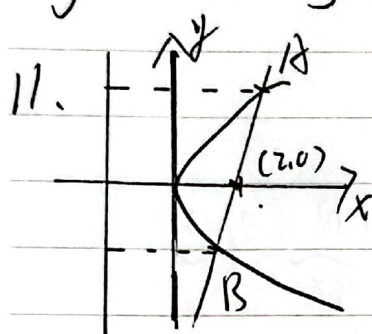
6. $y'' = 4x$

7. $m = \pm 2\sqrt{6}$

8. $y'' = 16x$ or $x'' = -8y$

9. $x'' = -\frac{1}{4}y$

10. $x'' = -4y$



Let $y = k(x-2)$

$\begin{cases} y = k(x-2) \\ y'' = 8x \end{cases}$

$\Rightarrow k^2x^2 - (4k^2+8)x + 4k^2 = 0$

$\therefore x_1 + x_2 = + \frac{4k^2+8}{k^2} = 32 - 4$

$\therefore k = \pm 5\sqrt{3}$

(1. 只有右半平面 |x| ≥ 2, 舍)

$\therefore k$ 为 $\frac{1}{5}\sqrt{3}$ 或 $\frac{5}{3}\sqrt{3}$

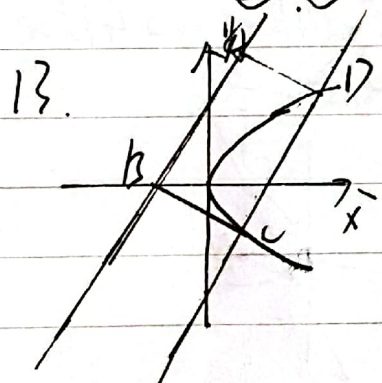
12. 设 $y = k(x-1)+1$

$\begin{cases} y = k(x-1)+1 \\ y'' = 8x \end{cases}$

$\Rightarrow ky'' - 8y + 8(1-k) = 0 \Rightarrow \begin{cases} 670 \\ y_1 + y_2 = 1 \end{cases}$

$\Rightarrow k = 4$ 舍去
 $\therefore k$ 不存在

$\therefore y = 4(x-1)+1$



13.

设 $AD = CD$

$\therefore AD = CD$

$\therefore \sqrt{2} \cdot \frac{\sqrt{6}}{10} = \frac{4-t}{\sqrt{2}}$

$\Rightarrow t = -2$ 或 -6

$\therefore a = 3\sqrt{2}$ 或 $5\sqrt{2}$

14. $\begin{cases} y'' = 4x \\ y = 2x + k \end{cases}$

$\Rightarrow \sqrt{1+k^2} \cdot \frac{\sqrt{6}}{10} = 3\sqrt{5}$

$k = -4$

2). $\int_{-1}^5 \frac{1}{x} dx = P$ 设 $P(a,0), C(2,0)$

$\int_{-1}^5 \frac{1}{x} dx = P \Rightarrow P$

$\therefore P = 5$ 或 -1

$P(5,0)$ 或 $(-1,0)$

$$|PA| + |PM| = 5$$

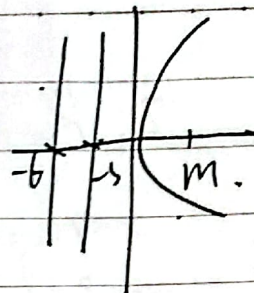
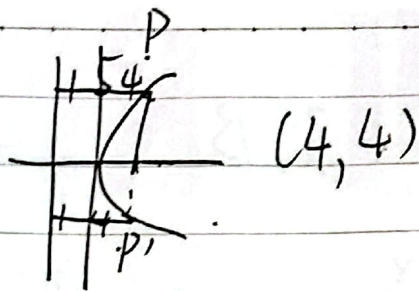
草稿

$$x' = \frac{1}{a}y$$

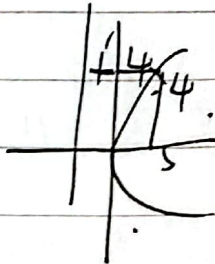
$$2p = \frac{1}{a}$$

$$p = \frac{1}{2a}$$

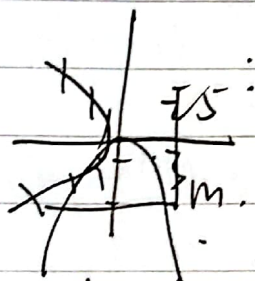
$$A(\frac{1}{4a}, \frac{1}{4a}) (0, \frac{1}{2a})$$



$$p = 8 \cdot y' = 16x$$



$$-\frac{1}{2}p = -1 \quad p = 2$$



$$x' = -8y$$

$$(1\sqrt{24}, 8-3)$$

$$y = \frac{x-4}{2}$$

$$(4, 0) (0, -2)$$

$$y' = 16x$$

$$x' = -8y$$

$$x' = 4 - 2y$$

$$x' = -\frac{1}{4}y$$

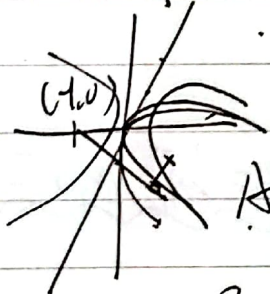
$$1 = 8p$$

$$x' = 4 - 2y$$

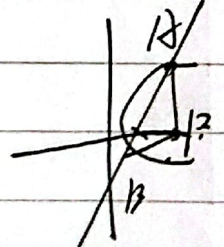
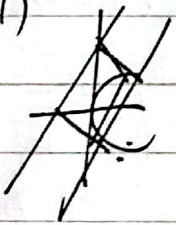
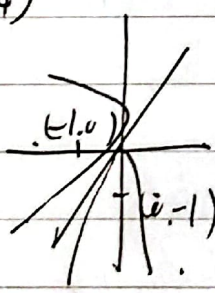
$$l^2(x-y) = 8x$$

$$l^2x^2 - (4l^2 + 8)x + 4l^2 = 0$$

$$x_1 + x_2 = -\frac{b}{a}$$



$$y = x + 4$$



草稿