

FIVE STAR.  
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rate of rotation

or

speed of rotation, = 1000 at empty  
ie no resistance

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speed of rotation  
with fluid

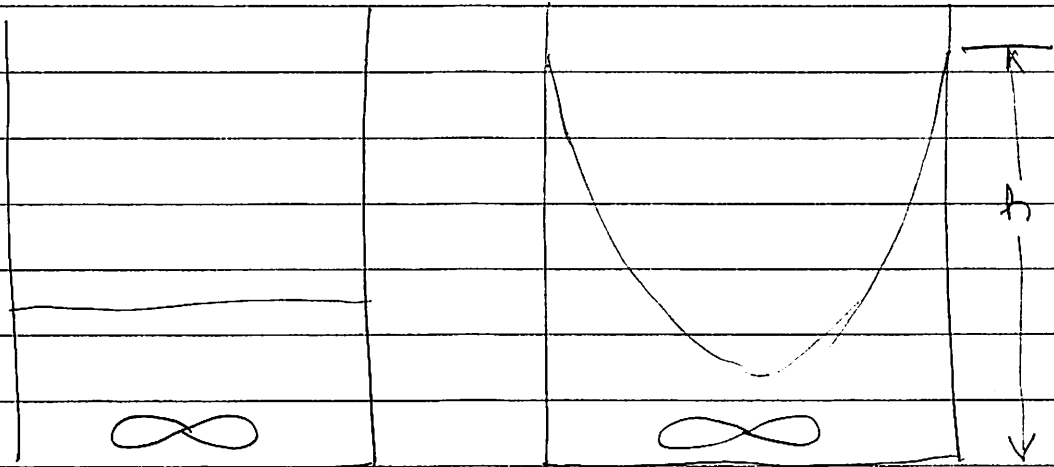
= 1000 - four rotations  
less than  
three times  
the sq. of the  
ht. of the fluid

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$$= 1000 - (3h^2 - 4)$$

h = ht. of fluid.

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Not spinning  
with fluid.

white spinning.

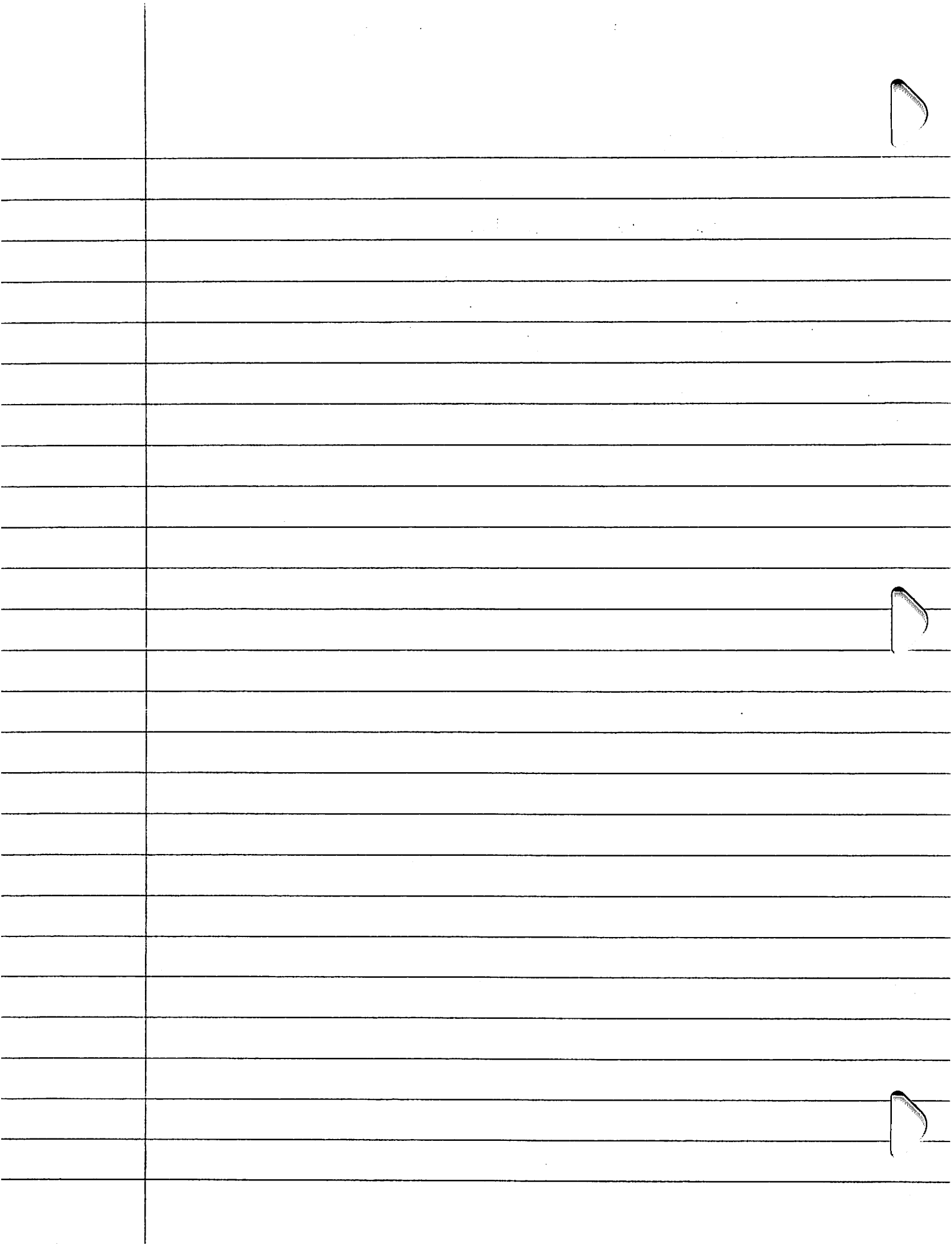


$$\frac{2d^2 - d - 10}{d^2 + 7d + 10} = \frac{d^2 - 4d + 3}{d^2 + 2d - 15}$$

$$\frac{(2d - 5)(d + 2)}{(d + 5)(d + 2)} = \frac{(d - 1)(d - 3)}{(d + 5)(d - 3)}$$

$$\Rightarrow (2d - 5) = (d - 1)$$

$$\Rightarrow \boxed{d = 4} \quad \text{ANS.}$$



$$\tan \text{ of } \angle BCA = \frac{3}{4} = \frac{AB}{BC} = \frac{3x}{4x}$$

$$\text{AREA of RECTANGLE} = 48$$

$$\therefore 48 = (3x)(4x)$$

$$48 = 12x^2$$

$$\left(\frac{1}{12}\right)(48) = \cancel{12}x^2 \left(\frac{1}{\cancel{12}}\right)$$

$$4 = x^2$$

$$\boxed{2 = x}$$

$$\therefore AB = 3x = 3(2) = 6 \text{ units.}$$

$$BC = 4x = 4(2) = 8 \text{ units.}$$

In a RT TRIANGLE,  $BC^2 + CD^2 = BD^2$

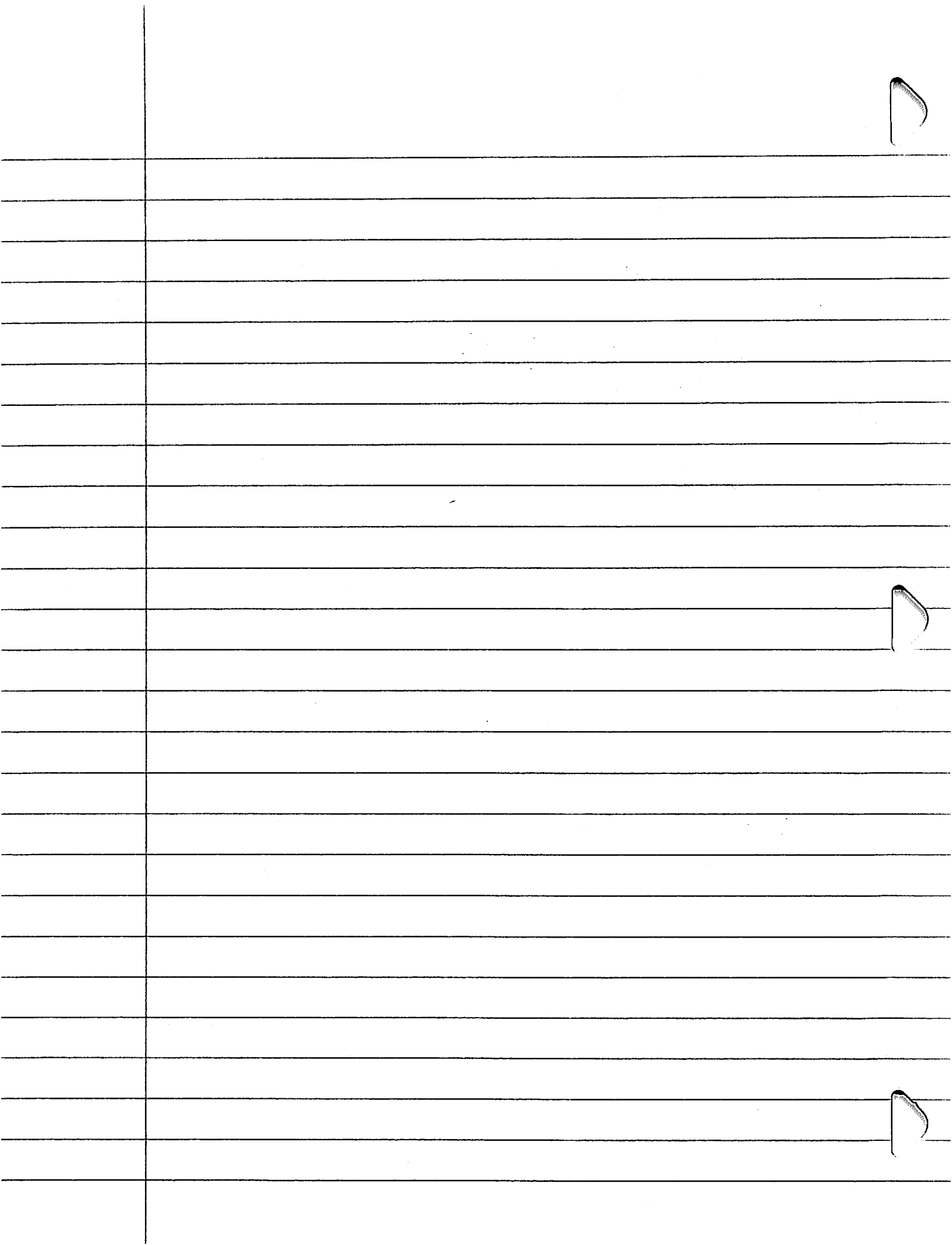
$$8^2 + AB^2 = BD^2$$

$$8^2 = 6^2 = BD^2$$

$$64 + 36 = BD^2$$

$$100 = BD^2$$

$$\boxed{10 = BD}$$



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$$13r + 8v = 47$$

$$22v = 63 - 17r$$

$$13r + 8v = 47$$

$$17r + 22v = 63$$

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$$30r + 30v = 110$$

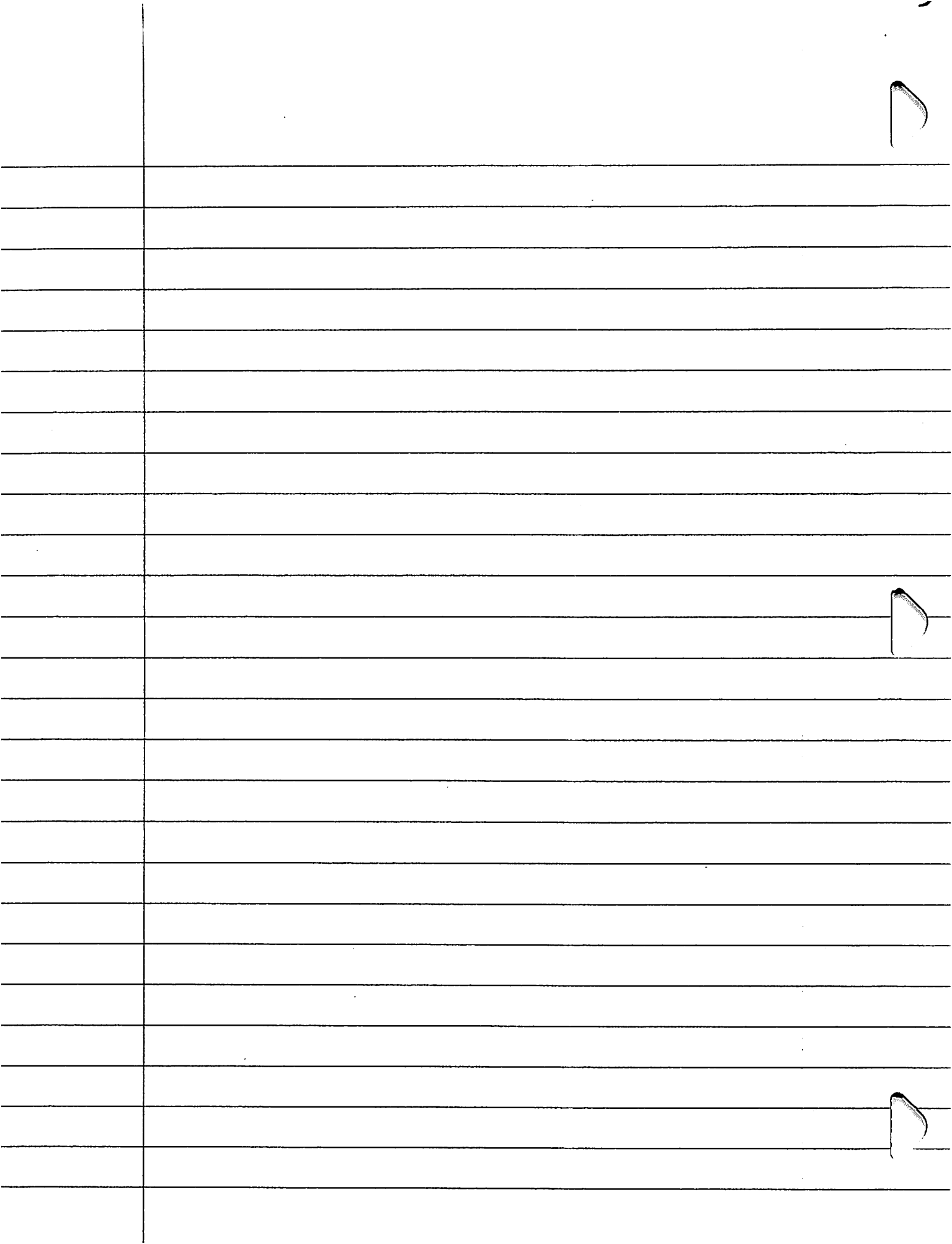
$$(r + v) 30 = 110$$

~~$$\left(\frac{1}{30}\right)(r + v)(30) = 110\left(\frac{1}{30}\right)$$~~

$$\boxed{(r + v) = \frac{110}{30}}$$

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$$\frac{\frac{6}{5}}{\frac{12}{2y} - \frac{5}{y}} = 1$$

$$\Rightarrow \frac{6}{5} = 1 \left( \frac{12}{2y} - \frac{5}{y} \right)$$

$$\Rightarrow \frac{6}{5} = \frac{12}{2y} - \frac{5 \times 2}{y}$$

$$= \frac{12}{2y} - \frac{10}{2y}$$

$$\Rightarrow \frac{6}{5} = \frac{12 - 10}{2y}$$

$$\Rightarrow \frac{6}{5} = \frac{2}{2y}$$

$$\Rightarrow \frac{6}{5} = \frac{1}{y}$$

$$\Rightarrow 6y = 5$$

$$\Rightarrow \boxed{y = \frac{5}{6}}$$

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(TRAVELLER'S CHEQUE IN USD)  $\times 0.07 = 32.30$  USD.

(~~651~~ CEDI)  $\times 0.07 =$

(651 CEDI)  $\times 0.07 = 32.30$  USD

(45.57 CEDI) = 32.30 USD.

$\frac{45.57}{32.30}$  CEDI = 1 USD

$\therefore \left( \frac{45.57 \text{ CEDI}}{32.30} \right) 5000 = 5000$  USD.

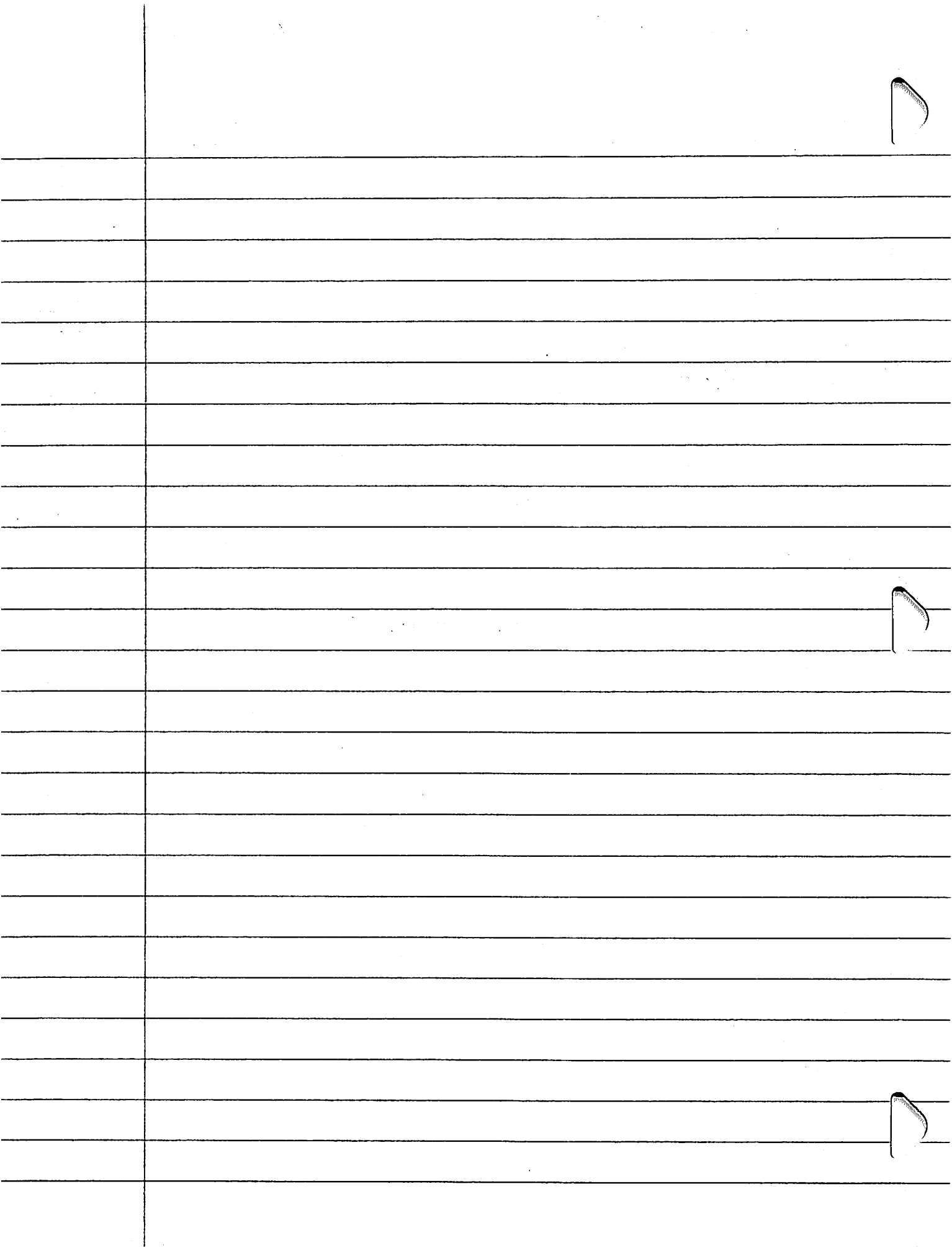
7054.18 CEDI = 5000 USD.

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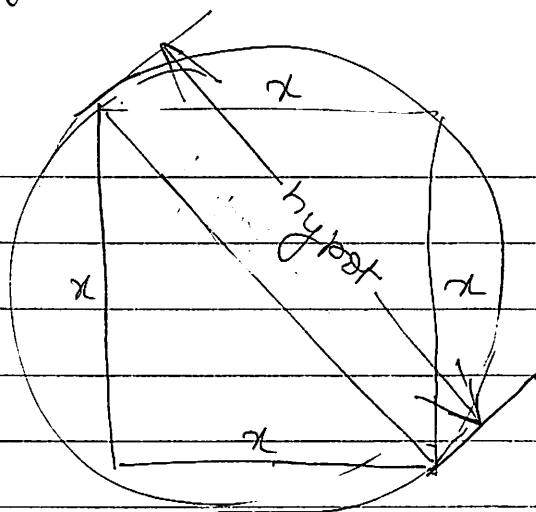
In a square

$$x^2 + x^2 = (\text{hypot})^2$$

$$2x^2 = (\text{hypot})^2$$

$$\sqrt{2x^2} = \sqrt{(\text{hypot})^2}$$

$$\boxed{x\sqrt{2} = \text{hypot}} = \text{diameter.}$$



ALSO, AREA of SQ =  $x^2$  ————— eq, ①

AREA of circle =  $\pi r^2$

$$= \pi \left( \frac{\text{hypot}}{2} \right)^2$$

$$= \pi \left\{ \frac{x\sqrt{2}}{2} \right\}^2$$

$$= \pi \left\{ \frac{x \cancel{\sqrt{2}}}{\sqrt{2} \sqrt{2}} \right\}^2$$

$$= \pi \frac{x^2}{2}$$

∴ AREA of SQ is what% of circle

what% =

$$= \frac{\text{AREA of SQ}}{\text{Area of Circle}} \times 100$$

$$= 100 \times \frac{x^2}{\pi \frac{x^2}{2}} = \frac{2}{\pi} \times 100 = \frac{2}{3.142} \times 100$$

200

3142

= 63.66

BEARERS WITH DIAMS  $\frac{1}{2}, \frac{3}{4}, \frac{4}{5}, 1, \frac{5}{4}$

$$\text{DIAMETERS} = \frac{10}{20}, \frac{15}{20}, \frac{16}{20}, \frac{20}{20}, \frac{25}{20}$$

WILL NOT CREATE ANY MODES.  
MEANS.

THIS additional cyl inder's dia is  
not the same as the ~~ones~~ in the list.

$$\text{MEAN} = \frac{5}{6} = \frac{\frac{10}{20} + \frac{15}{20} + \frac{16}{20} + \frac{20}{20} + \frac{25}{20} + \text{dia}}{6}$$

$$6 \times \left(\frac{5}{6}\right) = \frac{10}{20} + \frac{15}{20} + \frac{16}{20} + \frac{20}{20} + \frac{25}{20} + \text{dia}$$

$$5 = \frac{10 + 15 + 16 + 20 + 25 + \text{dia}}{20}$$

$$5 = \frac{86 + \text{dia}}{20}$$

$$\therefore 5 = 4.30 + \text{dia}$$

$$5 - 4.30 = \text{dia}$$

$$\boxed{0.70 = \text{dia}}$$





candidate A

≡

TOTAL.

0.48

1.00

614

t

$$\frac{0.48}{614}$$

$$= \frac{1.00}{t}$$

$$\left( \frac{0.48}{614} \right) (100)$$

$$= \left( \frac{1.00}{t} \right) (100)$$

$$\frac{48}{614}$$

$$= \frac{100}{t}$$

t

$$= \frac{100 \times 614}{48}$$

$$\boxed{t = 1279}$$



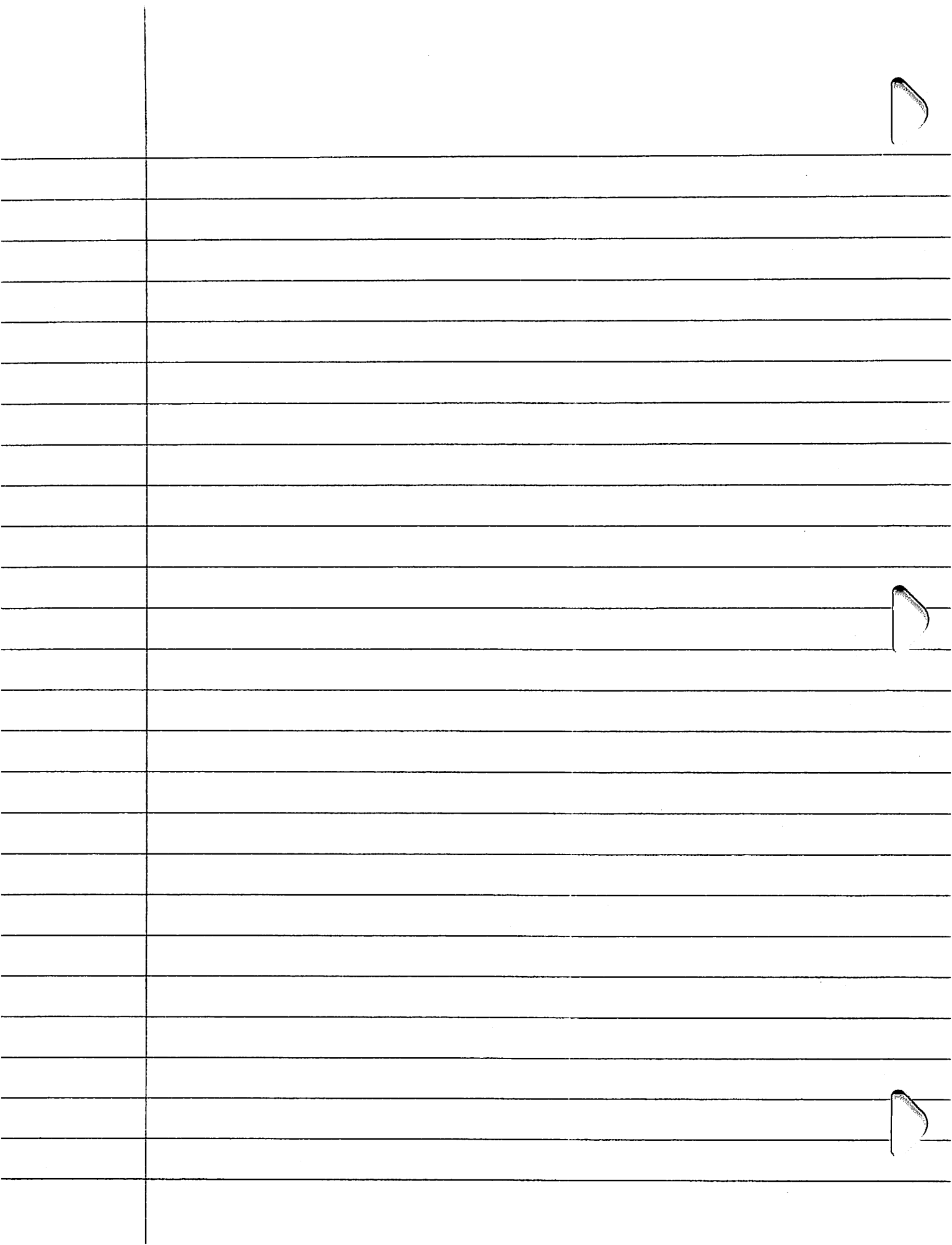
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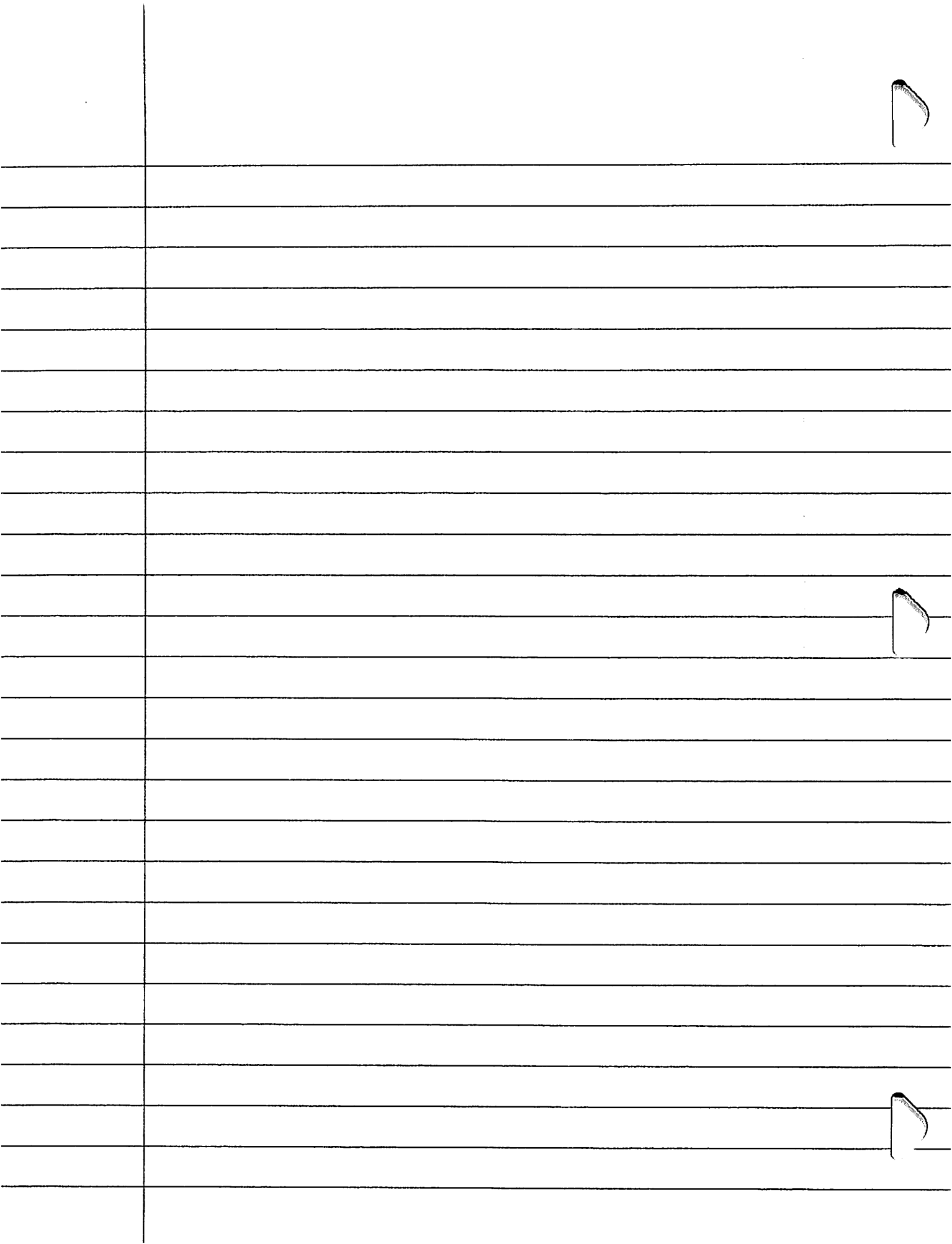
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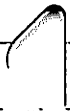






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