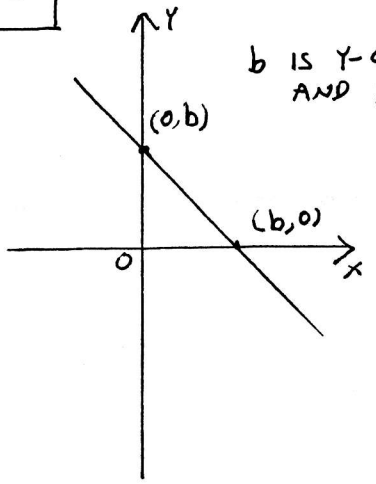
1 B



b IS Y-COORDINATE OF Y INTERCEPT
AND b IS X-COORDINATE OF X INTERCEPT

SLOPE $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{0-b}{b-0} = -\frac{b}{b} = -1$ IF $b \neq 0$ AS GIVEN.

SO $m = -1$ ANS. B

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2 E

FRACTION $\frac{a}{b}$, $b \neq 0$, $\frac{a}{b} > 0$, PROPER MEANS $|a| < |b|$

ASSUME $0 < a < b < 6$

b \ a	1	2	3	4
2	1/2			
3	1/3	2/3		
4	1/4	2/4	3/4	
5	1/5	2/5	3/5	4/5

NON REDUCED ALLOWS $\frac{2}{4}$

ONLY $\frac{1}{3}$ AND $\frac{2}{3}$ GIVE NON TERMINATING DECIMALS

8 ARE TERMINATING

10 POSSIBILITIES

PROBABILITY IS $\frac{8}{10} = \frac{4}{5}$ ANS. E

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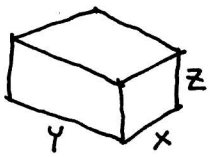
3 D



VOL $= XYZ$, X, Y, Z POSITIVE INTEGERS

$XZ = 36$
$YZ = 63$

GCF$(36,63) = 9$ SO Z DIVIDES 9, $Z \in \{1,3,9\}$

USE $36 = 2^2 \cdot 3^2$, $63 = 3^2 \cdot 7$

CASES	Z	X	Y	VOL	
	1	36	63	$2^2 \cdot 3^4 \cdot 7$	MAX
	3	12	21	$2^2 \cdot 3^3 \cdot 7$	
	9	4	7	$2^2 \cdot 3^2 \cdot 7$	MIN

RATIO $\frac{\text{MAX VOL}}{\text{MIN VOL}} = \frac{2^2 \cdot 3^4 \cdot 7}{2^2 \cdot 3^2 \cdot 7} = 3^2 = 9$ ANS. D