Final Revision (1)

❶ Complete each of the following :

[1] The two equations : $x = 4$, $y - 3 = 0$ represent two straight lines intersect at the point ⋯

[2] The two equations : $x = -1$, $y + 1 = 0$ represent two straight lines intersect at the point lies on ⋯ quadrant.

[3] The S. S. of the two equations : $x + 1 = 0$, $y + 2 = 0$ in $\mathbb{R} \times \mathbb{R}$ is ⋯

[4] The S. S. of the two equations : $x + y = 0$, $y - 5 = 0$ in $\mathbb{R} \times \mathbb{R}$ is ⋯

[5] The S. S. of the two equations : $x + 3y = 4$, $3y + x = 1$ in $\mathbb{R} \times \mathbb{R}$ is ⋯

[6] The S. S. of the two equations : $4x + y = 6$, $8x + 2y = 12$ in $\mathbb{R} \times \mathbb{R}$ is ⋯

[7] If the two equations : $x + 3y = 4$, $x + ay = 7$ represents two parallel straight lines , then $a =$ ⋯

[8] If the two equations : $x + 2y = 1$, $2x + ky = 2$ has one and only one solution , then $x \neq$ ⋯

[9] The equation : $xy = 3$ of ⋯ degree

[10] If $x - y = 3$, $x^2 - y^2 = 6$, $then\ x + y =$ ⋯

[11] The S. S. of the two equations : $x = 1$, $x^2 + y^2 = 1$ in $\mathbb{R} \times \mathbb{R}$ is ⋯

[12] The S. S. of the two equations : $x = 2$, $xy = 6$ in $\mathbb{R} \times \mathbb{R}$ is ⋯

[13] If (2,3) is a solution of the equation : $2x - ay = 3$, then $a =$ ⋯

[14] If (2,3) is the common solution of the two equations : , $ax + by = 5$, $ax - by = 3$ then $a =$ ⋯ $and\ b =$ ⋯

[15] The degree of the equation : $2^3xy = 1\ is\ \cdots degree$

[16] If $x^2 - y^2 = x + y$, $such\ that\ x + y \neq 0$, $then\ 3x - 3y = \cdots$

[17]The set of zeroes of f where $f(x) = zero\ is \cdots$

[18] The set of zeroes of f where $f(x) = x - 5\ is \cdots$

[19] The set of zeroes of f where $f(x) = 4\ is \cdots$

[20] The set of zeroes of f where $f(x) = x^2 + 9\ is \cdots$

[21] The set of zeroes of f where $f(x) = 4x^2 - 9\ is \cdots$

[22] The set of zeroes of f where $f(x) = (x - 5)^2\ is \cdots$

[23] The set of zeroes of f where $f(x) = 5 - x\ is \cdots$

[24] The domain of the function f where $f(x) = \dfrac{x+2}{x-1}\ is\ \cdots$

[25] The domain of the function f where $f(x) = \dfrac{x^2 - x}{x^2 - 2x - 3}\ is\ \cdots$

[26] The domain of the function f where $f(x) = \dfrac{x+2}{5x}\ is\ \cdots$

[27] The domain of the function f where $f(x) = \dfrac{x^2+2}{x^2+4}\ is\ \cdots$

[28] The common domain of the two functions f_1 : $f_1(x) = \dfrac{x+1}{x}$

, f_2 : $f_2(x) = \dfrac{x-3}{x^2 - 5x + 6}\ \ is\ \cdots$

[29] The simplest form of the algebraic fraction : $\dfrac{x-3}{x^2 - 5x + 6}\ is \cdots$

[30] If : $n_1(x) = \dfrac{5x}{5x^2 + 20}$, $n_2(x) = \dfrac{x}{x^2+4}$, then $n_1 = n_2$ in the domain $\cdots$

[31] If : $n_1(x) = \dfrac{x+2}{x^2-4}$, $n_2(x) = \dfrac{x+5}{(x+5)(x-2)}$, then $n_1 = n_2$ in the domain $\cdots$

[32] If : $n(x) = \frac{x^2-9}{x-2}$, then z(n) = ⋯

[33] The set of zeroes of f where $f(x) = \frac{x-3}{x^2-4}$ is ⋯

[34] The set of zeroes of f where $f(x) = x^2 - 25$ *is* ⋯

[35] The function $f(x) = \frac{x-5}{x-2}$ does not exist at $x =$ ⋯

[36] If : $n(x) = \frac{1}{x+2} - \frac{1}{x-2}$, then its simplest form is ⋯
and its domain is ⋯

[37] The domain of the additive inverse of $n(x) = \frac{2}{x-1}$ *is* ⋯

[38] The two events are said to be mutually exclusive if A ∩ B = ⋯

[39] If the probability of that the event A occurs is 75% , then the probability of non occurrence of this event is ⋯

[40] If A is an event , P(A) = 0 , then A is ⋯

[41] If $\dot{A}$ is the complement event of A , then $A \cup \dot{A} =$ ⋯ and $A \cap \dot{A} =$ ⋯

[42] The Probability of the sure event = ⋯

[43] The Probability of the impossible event = ⋯

[44] When a regular die tossed once , then the probability of getting an even number is ⋯

[45] When a regular coin tossed once , then the probability of getting a head is ⋯

[46] If A and B are two mutually exclusive events , $P(A) = 0.2$ *and* $P(B) = 0.3$ *then* $P(A \cup B) =$ ⋯

[47] If A and B are two mutually exclusive events , then $P(A \cap B) =$ ⋯

[48] If A ⊂ S of a random experiment , P(A) = P$\left(A^{\backslash}\right)$, then P(A) = ⋯

[49] If A and B are two mutually exclusive events of a random experiment $P(A) = \frac{1}{4}$ *and* $P(A \cup B) = \frac{5}{12}$, *then* $P(B) =$ ⋯

❷ Choose the correct answer :

[1] The point of intersection of the two straight lines $y = 2$ and $x + y = 6$ is ⋯

(a) (2,6) (b) (2,4) (c) (4,2) (d) (6,2)

[2] The point of intersection of the two straight lines : $2x - y = 3$ and $2x + y = 5$ lies on the ⋯ quadrant

(a) $1st$ (b) $2nd$ (c) $3rd$ (d) $4th$

[3] The point of intersection of the two straight lines : $x = 1$ and $y = 5a$ lies on fourth quad. , then a may be = ⋯

(a) -5 (b) $zero$ (c) 1 (d) 5

[4] The two straight lines : $x + 5y = 1$, $x + 5y - 8 = 0$ are ⋯

(a) parallel (b) coincide (c) intersect & non ⊥ (d) perpendicular

[5] The two straight lines : $3x + 4y = 1$, $6x + 8y = 2$ are ⋯

(a) parallel (b) coincide (c) intersect & non ⊥ (d) perpendicular

[6] The two straight lines : $3x = 7$, $2y = 9$ are ⋯

(a) parallel (b) coincide (c) intersect & non ⊥ (d) perpendicular

[7] The two straight lines : $x - 1 = 0$, $x + y = 5$ are ⋯

(a) parallel (b) coincide (c) intersect & non ⊥ (d) perpendicular

[8] The number of solutions of the two equations : $x + y = 2$ and $y - 3 = 0$ is ⋯

(a)$zero$ (b)one (c) two (d) three

[9] The number of solutions of the two equations : $x + y = 2$ and $x + y - 3 = 0$ is ⋯

(a)$zero$ (b)one (c) two (d) three

[10] If the two equations : $x + 4y = 7$ and $3x + ky = 21$ has infinite number of solutions , then $k = \cdots$

(a) 4 (b) 7 (c) 12 (d) 21

[11] The curve of the function f such that $f(x) = x^2 - 3x + 2$ cuts $x -$ axis at the two points ⋯

(a) $(2,0), (3,0)$ (b) $(2,0), (1,0)$ (c) $(-2,0), (-1,0)$ (d) $(2,0), (-1,0)$

[12] The S. S. of the equation : $2x^2 + 5x = 0$ in $\mathbb{R}$ is ⋯

(a) $\{0,5\}$ (b) $\left\{0, -\frac{5}{2}\right\}$ (c) $\{2,5\}$ (d) $\emptyset$

[13] The S. S. of the equation : $x^2 - 4x + 4 = 0$ in $\mathbb{R}$ is ⋯

(a) $\{-2,2\}$ (b) $\{4,1\}$ (c) $\{2\}$ (d) $\emptyset$

[14] The S. S. of the equation : $x^2 + 5 = 0$ in $\mathbb{R}$ is ⋯

(a) $\{\sqrt{5}, -\sqrt{5}\}$ (b) $\{-\sqrt{5}\}$ (c) $\{\sqrt{5}\}$ (d) $\emptyset$

[15] If the equation : $ax^2 + bx + c = 0$ and $b^2 - 4ac > 0$, then the number of roots equals ⋯

(a) 1 (b) 2 (c) 0 (d) undetermined

[16] The degree of the equation : $3x + 4y + xy = 5$ is ⋯

(a) zero (b) first (c) second (d) third

[17] One solution of the equation : $x^2 - y^2 = 3$ in $\mathbb{R}$ may be ⋯

(a) $(1, -2)$ (b) $(-2, 1)$ (c) $(1,2)$ (d) $(-1, -2)$

[18] The ordered pair that satisfies both of the two equations : $xy = 2$, $x - y = 1$ is⋯

(a) $(1,2)$ (b) $(2, 1)$ (c) $(1,1)$ (d) $(2, -1)$

[19] The S. S. of the two equations : $x = y$, $xy = 1$ in $\mathbb{R} \times \mathbb{R}$ is ⋯

(a) $\{(1,1)\}$ (b) $\{(-1, -1)\}$ (c) $\{(1, -1)\}$ (d) $\{(1,1), (-1, -1)\}$

[20] The S. S. of the two equations : $x - y = 0$, $xy = 9$ in $\mathbb{R} \times \mathbb{R}$ is ⋯

(a) $\{(0,0)\}$ (b) $\{(-3, -3)\}$ (c) $\{(3,3)\}$ (d) $\{(3,3), (-3, -3)\}$

[21] One solution of the two equations : $x - y = 2$, $x^2 + y^2 = 20$ in R may be $=$ ⋯

(a) $(-4,2)$ (b) $(2,-4)$ (c) $(3,1)$ (d) $(4,2)$

[22] If : $x = y + 1$, $(x-y)^2 + y = 3$, then $y = \cdots$

(a) $zero$ (b) 1 (c) 2 (d) 3

[23] If $x = 1$, $x^2 + y^2 = 10$, $then\ y = \cdots$

(a) -3 (b) ± 3 (c) 3 (d) 9

[24] If $ab = 3$, $ab^2 = 12$, $then\ b = \cdots$

(a) 4 (b) 2 (c) -2 (d) ± 2

[25] If the difference between two numbers is 1 and the square of their sum is 25 , then the two numbers are ⋯

(a) 1,2 (b) 2,3 (c) 3,4 (d) 4,5

[26] If a regular die is tossed once , the probability of appearance a number less than $3 = \cdots$

(a) $\frac{1}{6}$ (b) $\frac{1}{3}$ (c) $\frac{1}{2}$ (d) $\frac{2}{3}$

[27] If a bag contains 4 white balls , 6 red balls if one ball is drawn randomly , then the probability that this ball is red $= \cdots$

(a) $\frac{1}{5}$ (b) $\frac{2}{5}$ (c) $\frac{3}{5}$ (d) $\frac{2}{3}$

[28] If the probability that a student in preparatory final exam is succeeded $= 85\%$, then the probability that he fail is ⋯

(a) 0.015 (b) $\frac{3}{20}$ (c) $\frac{17}{20}$ (d) 0.85

[29] If the probability that Egyptian team may win of football in the African cup of nations 0.318 , then the probability of non-winning is $= \cdots$

(a) 1 (b) $zero$ (c) 0.862 (d) 0.682

[30] If a bag contains a number of identical green and blue balls , if one ball is drawn randomly , the number of green balls is 5 while the probability that the drawn ball is blue equals $\frac{2}{3}$, then the number of blue balls $= \cdots$

(a) 10 (b) 12 (c) 15 (d) 20

[31] $P(A) = \frac{1}{2}$, $P(B) = \frac{1}{3}$ and $P(A \cap B) = \frac{1}{8}$, then $P(A \cup B) = \cdots$

(a) $\frac{5}{8}$ (b) $\frac{17}{24}$ (c) $\frac{1}{6}$ (d) $\frac{13}{24}$

[32] $P(A) = 0.2$, $P(B) = 0.6$ and $P(A \cap B) = 0.3$, then $P(A \cup B) = \cdots$

(a) 0.5 (b) 0.62 (c) 5 (d) 0.13

[33] If A and B are two mutually exclusive events , $P(A) = 0.5$ and $P(A \cup B) = 0.8$, then $P(B) = \cdots$

(a) 0.03 (b) 0.3 (c) 0.5 (d) 0.13

[34] A card is drawn randomly from 20 identical cards numbered from 1 to 20 , then the probability that the number of drawn card multiple of 7 is $\cdots$

(a) 10% (b) 15% (c) 20% (d) 25%

[35] If A , B are two events in a random experiment and $A \subset B$, then $P(A - B) = \cdots$

(a) $zero$ (b) $P(A) - P(B)$ (c) $P(B) - P(A)$ (d) $P(A)$

Model answer

❶ Complete each of the following :

[1]	$(4,3)$	[2]	The third	[3]	$\{(-1,-2)\}$
[4]	$\{(-5,5)\}$	[5]	$\emptyset$	[6]	$\{(x,y): 4x+y=6, (x,y)\in R\times R\}$
[7]	3	[8]	4	[9]	The second
[10]	2	[11]	$\{(1,0)\}$	[12]	$\{(2,3)\}$
[13]	$1/3$	[14]	$a=2\,,b=1/3$	[15]	$2nd$
[16]	3	[17]	R	[18]	$\{5\}$
[19]	$\emptyset$	[20]	$\emptyset$	[21]	$\left\{-\frac{3}{2},\frac{3}{2}\right\}$
[22]	$\{5\}$	[23]	$\{5\}$	[24]	$R-\{1\}$
[25]	$R-\{3,-1\}$	[26]	$R-\{0\}$	[27]	R
[28]	$R-\{0,2,3\}$	[29]	$\frac{1}{x-2}$	[30]	R
[31]	$R-\{2,-2,-5\}$	[32]	$\{-3,3\}$	[33]	$\{3\}$
[34]	$\{5,-5\}$	[35]	2	[36]	$\frac{-4}{(x+2)(x-2)}\,, R-\{-2,2\}$
[37]	$R-\{1\}$	[38]	$\emptyset$	[39]	25%
[40]	impossible event	[41]	$S\,,\emptyset$	[42]	1
[43]	$zero$	[44]	$\frac{1}{2}$	[45]	$\frac{1}{2}$
[46]	0.5	[47]	$zero$	[48]	$\frac{1}{2}$
[49]	$\frac{1}{6}$				

❷ Choose the correct answer :

[1] (c)	[2] (a)	[3] (a)	[4] (a)	[5] (b)	[6] (d)
[7] (c)	[8] (b)	[9] (a)	[10] (c)	[11] (b)	[12] (b)
[13] (c)	[14] (d)	[15] (b)	[16] (c)	[17] (b)	[18] (b)
[19] (d)	[20] (d)	[21] (d)	[22] (c)	[23] (b)	[24] (a)
[25] (b)	[26] (b)	[27] (c)	[28] (b)	[29] (d)	[30] (a)
[31] (b)	[32] (a)	[33] (b)	[34] (a)	[35] (a)	

With all my best wishes for you
Mr. Michael Gamil