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| Department | BBA 1st Semester |
| Paper | Business Math |
| Instructor | Mr Liaqat |
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Question No (1)

i. The solutions of $\left|2x-\frac{-3}{5}\right|=-3$ are.

(e) None of them

ii. A man is going from the point $A(-5,-4)$ to the point $B(-2,7)$ then the increments in the x- and y-coordinates are

(e) None of them

iii. A stair make an angle of inclination $\theta=45^{\circ}$ with the horizontal then its slope is

(d) None of them

iv. A painter can paint 100 $m^2$ wall in 10 hours. Then the time required to paint 4000 $m^2$ wall will be .

(e) None of them

v. If 20% of sale price $400 is equal to 50% of cost price then the cost price will be

(d) None of Them

vi. If $f(x) = x - 1$ and $g(x) = x^2$ then $(fog)(x) =$ is

(e) None of them

vii. domain of a curve $y = \sqrt{-1 - x^2}$ is

(e) None of them

viii. The net cost equivalent for 10 / 30

(e) None of them

ix. The equation $y = a + bx$ shows (a)Linear function

(d) None of them

x. The sum of two numbers is 30 and difference is 10 then the numbers are =

None of them

Q.2

b) solve..

$$|3x-3| = 4x-2$$

There are Two possibilities.

$3x-3 = -(4x-2)$ , $3x-3 = 4x-2$

$3x-3 = -4x+2$ | $3x-3 = 4x-2$

$3x+4x = 2+3$ | subtract (4) and Add 3 on b/s.

$7x = 5$ | $3x-4x = -2+3$

divide 7 on b/s. | $-x = 1$

$\frac{7x}{7} = \frac{5}{7}$ | $x = -1$

$x = 5/7$

$SS = \{5/7, -1\}$ A.

Q3.

a) Find The inverse.

$$\begin{bmatrix} -5 & -6 \\ -0 & -7 \end{bmatrix}$$

using find a.

$$= \frac{1}{\begin{vmatrix} -5 & -6 \\ -0 & -7 \end{vmatrix}} \times \text{Adj} \begin{bmatrix} -5 & -6 \\ -0 & -7 \end{bmatrix}$$

$$= \frac{1}{-5x-7-(-0x-6)} \times \text{Adj} \begin{bmatrix} -5 & -6 \\ -0 & -7 \end{bmatrix}$$

$$= \frac{1}{35-0} \begin{bmatrix} -7 & 6 \\ 0 & -5 \end{bmatrix}$$

$$= \frac{1}{35}\begin{bmatrix} 7 & 6 \\ 0 & 5 \end{bmatrix}$$

$$= \begin{bmatrix} 7/35 & 6/35 \\ 0/35 & 5/35 \end{bmatrix}$$

$$= \begin{bmatrix} 1/5 & 6/35 \\ 0 & 1/7 \end{bmatrix} \text{ Ans.}$$

* Solve the following.

$$x + 2y = 2$$
$$3x - 5y = 3$$

These equation can be written in matrix form.

$$A = \begin{bmatrix} 1 & 2 \\ 3 & -5 \end{bmatrix}, \quad B = \begin{bmatrix} 2 \\ 3 \end{bmatrix}, \quad X = \begin{bmatrix} x \\ y \end{bmatrix}$$

using Inversion method

$$X = A^{-1} \times B$$

$$A^{-1} = \frac{1}{|A|} \times \text{Adj } A$$

$$|A| = \begin{vmatrix} 1 & 2 \\ 3 & -5 \end{vmatrix}$$
$$= 1(-5) - (3)(2)$$
$$= -5 - 6$$
$$|A| = -11$$

$$\text{Adj } A = \begin{bmatrix} -5 & -2 \\ -3 & 1 \end{bmatrix}$$

(3)

Date 18/04/2020

$$A^{-1} = \frac{1}{|A|} \times \text{Adj } A$$

$$A^{-1} = \frac{1}{-11} \times \begin{bmatrix} -5 & -2 \\ -3 & 1 \end{bmatrix}$$

$$X = A^{-1} \times B$$

$$X = \frac{1}{-11} \times \begin{bmatrix} -5 & -2 \\ -3 & 1 \end{bmatrix} \times \begin{bmatrix} 2 \\ 3 \end{bmatrix}$$

$$= \frac{1}{-11} \times \begin{bmatrix} -5\times2 + (-2\times3) \\ -3\times2 + 1\times3 \end{bmatrix}$$

$$= \frac{1}{-11} \times \begin{bmatrix} -10 - 6 \\ -6 + 3 \end{bmatrix}$$

$$= \frac{1}{-11} \times \begin{bmatrix} -16 \\ -3 \end{bmatrix}$$

$$= \begin{bmatrix} -16/-11 \\ -3/-11 \end{bmatrix}$$

$$\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} \frac{16}{11} \\ 3/11 \end{bmatrix}$$

$x = \frac{16}{11}$ , $y = 3/11$

Ans.

suppose the age of sister and brother is $x, y$.

according to the question.

$$x + y = 26 \quad -①$$

3 years ago.

$$4(x-3) = y-3$$

$$4x - 12 = y - 3$$

$$4x - y = -3 + 12$$

$$4x - y = 9 \quad -②$$

Add eqn ① and ②

$$x + y = 26$$
$$4x - y = 9$$
$$\overline{5x = 35}$$

divide five on bth

$$\frac{5x}{5} = \frac{35}{5}$$

$$\boxed{x = 7}$$

put $x = 7$ in eqn ①

$$x + y = 26$$

$$7 + y = 26$$

$$y = 26 - 7$$

$$y = 19$$

Mon Tue Wed Thu Fri Sat

(5)

Date: / /20

girl age 19 years
and brother age 7 year.

a) Find the factor of all.
$x^4 - 16$ and $x^2 - 6x + 9$

(i) $x^4 - 16$

$= (x^2)^2 - (4)^2$

$\because a^2 - b^2 = (a-b)(a+b)$

$= (x^2 - 4)(x^2 + 4)$

$= (x^2 - 2^2)(x^2 + 4)$

$= (x-2)(x+2)(x^2+4)$ Ans.

(ii) $x^2 - 6x + 9$

$= x^2 - 6x + 9$

$= x^2 - 3x - 3x + 9$

$= x(x-3) - 3(x-3)$

$= (x-3)(x-3)$ Ans.

$1 \times 9 = 9$

$+ -3x - 3 = 9$

$-3 - 3 = -6$

(b) c.p = $15

s.p = $18.75

profit = s.p - c.p

= 18.75 - 15

profit = $3.75

Sat

Date: __/__/20__

Q. 6

$$\text{Profit \%} = \frac{\text{Profit} \times 100}{\text{C.P}}$$

$$= \frac{3.75 \times 100}{15_3 \; 20}$$

$$= \frac{3.75 \times 20}{3}$$

$$= \frac{75}{3}$$

$$= \$25\ \%$$ Ans.

3.75
× 20
000
750×
75.00