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Paper	Business Math
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Submit Date	June, 24-2020

i The solutions of $|4x-6| = -3$ are

(e) None of them

ii The equation $P(x) = R(x) - C(x)$ shows

(b) Linear profit function

iii The sum of two numbers is 40 and difference is 20 then the numbers are =

(b) (30,10)

iv $\sqrt{5^2 + 11} - 6 =$

(e) None of them

v A stair make an angle of inclination $\theta = 60^\circ$ with the horizontal then its slope is

(a) $\frac{1}{\sqrt{3}}$

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

(b) $x-1$

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

(e) None of them

viii $\begin{vmatrix} -7 & -5 \\ 4 & -4 \end{vmatrix} =$ (e) None of them

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ix A painter can paint 200 m^2 wall in 10 hours. Then the time required to paint 2000 m^2 wall will be .

(e) None of them

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

(d) None of Them

Q.2)

Let the age of brother
and sister is x, y .

Sum of their ages.

$$x + y = 20 \quad \text{--- (1)}$$

Two year ago their ages

~~$x + y$~~

$$x - 2, \quad y - 2$$

$$x - 2 = 3(y - 2)$$

$$x - 2 = 3y - 6$$

$$x - 3y = -6 + 2$$

$$x - 3y = -4$$

Subtract (1) from (2)

$$x - 3y = -4$$

$$\underline{x + y = 20}$$

$$-4y = -24$$

divide -4 on b/s.

$$\frac{-4y}{-4} = \frac{-24}{-4}$$

$$\boxed{y = 6}$$

$$x + y = 20$$

$$x + 6 = 20$$

$$x = 20 - 6$$

$$x = 14$$

sister age 14 year and
brother age 6 year.

$$b) \quad C.P = 12$$

$$M.P = 7.20$$

$$= \frac{7.20}{12} \times 100$$

$$= \frac{7200}{12}$$

$$= \frac{600}{1}$$

$$= 60\% \text{ An}$$

Q. 3, expanded law.

$$= \frac{x^{-3}}{x^{-1/2}} \times \frac{x}{x^{3/4} \cdot y^{-2}} \div \frac{xy^{-3}}{y^{1/2}}$$

$$= x^{-3} \cdot x^{1/2} \cdot x \cdot x^{-3/4} \cdot y^2 \times \frac{y^{1/2}}{xy^3}$$

$$= x^{-3} \cdot x^{1/2} \cdot x \cdot x^{-3/4} \cdot y^2 \times y^{1/2} \times x^{-1} y^{-3}$$

$$= x^{-3 + 1/2 + 1 - 3/4 - 1} \cdot y^{2 + 1/2 - 3}$$

$$= x^{-26/8} \cdot y^{4/2}$$

$$= x^{-13/4} \cdot y^{1/2}$$

$$\text{Ans} \quad \left| \frac{-24 + 6}{8} \right.$$

Q. 4)

$$\text{Ans) } U = \{1, 3, 5, 7, \dots, 23\}$$

$$A = \{1, 3, 9, 12, 15, 18\}$$

$$B = \{5, 10\}$$

$$C = \{3, 6, 9, 15, 18\}$$

$$(A \cup B)' = A' \cap B'$$

$$A \cup B = \{1, 3, 5, 7, 10, 12, 15, 18\}$$

$$(A \cup B)' = U - A \cup B$$

$$U - A \cup B = \{1, 3, 5, 7, 10, 12, 15, 18\}$$

$$U - (A \cup B) = \{1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23\} \cup \{1, 3, 5, 9, 10, 12, 15, 18\}$$

$$(A \cup B)' = \{11, 13, 17, 19, 21, 23\}$$

$$A' = U - A = \{1, 3, 5, \dots, 23\} - \{1, 3, 5, 15, 15, 15\}$$

$$A' = \{7, 11, 13, 17, 19, 21, 23\}$$

$$B' = U - B = \{1, 3, 5, \dots, 23\} - \{5, 10\}$$

$$B' = \{1, 3, 7, \dots, 23\}$$

$$A' \cap B' = \{7, 11, 13, 17, 19, 21, 23\} \cap \{1, 3, 7, \dots, 23\}$$

$$A' \cap B' = \{7, 11, 13, 17, 19, 21, 23\}$$

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Question No # 5

$$\text{List price} = \$ 150$$

$$\text{Trade discount} = 20\%$$

Find the net cost = ?

Sol:-

$$\text{Price of Discount} = 150 \times 20\%$$

$$= \frac{150}{100} \times \frac{20}{100}$$

$$\text{price of Discount} = 30$$

$$\text{net cost} = \text{m.p} - \text{dis}$$

$$= 150 - 30$$

$$\text{net cost} = \$ 120 \text{ Ans.}$$