

28/2/2023

MATHS

Mid Term Assignment

1) Principal (1st year) = 2,000,000

Interest in the 1st year = 240,000

$$\left(\frac{12}{100} \times 2,000,000\right)$$

Amount at the end of the = 2,000,000 + 240,000
= ~~2,240,000~~

1st repayment = ~~50,000~~

Principal (2nd year) = ~~2,190,000~~

Interest with the 2nd year = $\left(\frac{12}{100} \times 2,190,000\right)$
= ~~262,800~~

Amount at the end of the 2nd year = 2,452,800

2nd repayment = ~~50,000~~

Principal (3rd year) = ~~2,402,800~~

Interest with the 3rd year = $\left(\frac{12}{100} \times 2,402,800\right)$

= 288,336

Amount at the end of 3rd year = ~~2,691,136~~

3rd repayment = 50,000

Principal (3rd year) = 2,641,136

The amount she will owe in the 3rd year is ~~2,641,136~~

2.)

$$2) \text{ 1st year Increase} = \frac{2,600,000 \times 1 \times 7}{100} = \text{£} 182,000$$

$$\begin{array}{r} \text{£} 2,600,000 \\ + 182,000 \\ \hline \text{£} 2,782,000 \end{array}$$

$$\text{2nd year Increase} = \frac{\text{£} 2,782,000 \times 1 \times 7}{100} = \text{£} 194,740$$

$$\begin{array}{r} \text{£} 2,782,000 \\ + 194,740 \\ \hline \text{£} 2,976,740 \end{array}$$

$$\text{3rd year Increase} = \frac{\text{£} 2,976,740 \times 1 \times 7}{100} = \text{£} 208,371.8$$

$$\begin{array}{r} \text{£} 2,976,740 \\ + 208,371.8 \\ \hline \text{£} 3,185,111.8 \end{array}$$

$$\text{4th year Increase} = \frac{\text{£} 3,185,111.8 \times 1 \times 7}{100} = \text{£} 222,957.826$$

$$\begin{array}{r} \text{£} 3,185,111.8 \\ + 222,957.826 \\ \hline \text{£} 3,408,069.626 \end{array}$$

Amount at the end of the 4 years - £ 3,408,069.626

Her salary increase in four years time 7) will be £ 3,408,069.626

$$3) xy^2 = 4k + b$$

$$y^2 = 4k + b$$

$$\frac{y^2}{y} = \frac{4k + b}{y}$$

$$y = \frac{4k + b}{y}$$

$$4) A = \frac{1}{2}bh$$

$$A = 72$$

$$5) \text{ PC (fanta) } \frac{220}{24} = \frac{51}{6}$$

$$\text{PC's price} = \frac{4}{20} = \frac{1}{5}$$

$$p(\text{fanta, or Sprite})$$

$$\frac{20}{24} + \frac{5}{6} + \frac{1}{6}$$

$$\frac{25}{30} = \frac{31}{30} \quad \left| \frac{1}{30} \right.$$

$$p(03) \text{ Possible outcome} = (1, 2, 3, 4, 5, 6)$$

$$= \frac{1}{6}$$

$$p(4 \text{ or } 5) = \frac{6+6}{6} = \frac{12}{6} = \frac{1}{6}$$

$$c) p(n6): \frac{0}{6} = \underline{\underline{0}}$$

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$$7.) \quad x + y = 3 \quad \text{--- ①}$$

$$x - y = 6 \quad \text{--- ②}$$

Adding the equation to eliminate y terms

$$x + y = 3 \quad \text{--- 3}$$

$$x - y = 6 \quad \text{--- 4}$$

$$2x = 9$$

$$\frac{2x}{2} = \frac{9}{2}$$

$$x = 4.5$$

Now in putting x in the first equation gives the following

$$4.5 + y = 3 \quad \text{--- 5}$$

$$4.5 + y = 3$$

$$y = -1.5$$

$$\text{Answer } x = 4.5, y = -1.5$$

Q) The name of this triangles are isosceles triangle.

A & B corresponds to f D.E

Sum of angle in a triangle = 180°

$$86 + 28 - 180 = 66$$

B of A in a triangle = 180

$$66 + 28 = 180 = \underline{\underline{86}}$$

b) CB A corresponds to $z \times y$

$$= 41$$

$$= 83$$

$$18) f = \frac{1}{2} \pi r^2 \times h$$

$$= \frac{22}{7} \times 20 \times 20 \times 10$$

$$= \frac{88000}{7}$$

$$8) cb = \pi r^2 \times h$$