DATE : __/__/____

Q3

22

(A)

Solution

Given:

Percentage earned at 1920 is equal to percentage lost at 1280

% profit = % loss

Sold price$_1$ - original price = Original price - Sold price$_2$

~~Original price~~

Sold price$_1$ - Original price = ~~Original price~~

Original price - Sold price$_2$

1920 - Original price = Original price - 1280

1920 + 1280 = 2x Original price

$\frac{3200}{2}$ = original price

Original price = 1600

for 25pc increase in profit

$1600 + 1600 \times \frac{25}{100}$

3

1600 + 400 = 4000 = 2000

It should be sold at ~~4000 RS~~

DATE: __/__/____

(B)

Solution::

Given

Let x be the total work.

A can do it in 15 days

B can do it in 20 days

Work done by A in a day = $\frac{x}{15}$ → ①

Work done by B in a day = $\frac{x}{20}$

Working together (A and B) for four days then the completed work =

$$4\left(\frac{x}{15}+\frac{x}{20}\right) =$$

$$4\left(\frac{20x+15x}{300}\right)$$

$$\frac{4\times 35x}{300} = \text{completed work in 4 days}$$

$$\frac{7x}{30}$$

remaining work = $x - \frac{7x}{30}$

$$= \frac{30x-7x}{30}$$

$$= \frac{23x}{30}$$

$$= 0.706x$$

0.706 fraction of work is remaining

DATE: __/__/____ (c)

Solution:

Given data:

Age of A = $\frac{2}{5}$ Age of Mother → ①

(Age of A + 8) = $\frac{1}{2}$ (Mothers age + 8) → ②

Aage = $\frac{2}{5}$ Mage → ③

Aage + 8 = $\frac{Mage}{2}$ + 4

Aage - $\frac{Mage}{2}$ = -4 → ④

putting ③ in ④

$\frac{2}{5}$ Mage - $\frac{Mage}{2}$ = -4

$\frac{4Mage - 5Mage}{10}$ = -4

-Mage = -40

Mage = 40

His mother's age is 40 years

DATE : __/__/____

(D)

Solution

Given:

Let the number be x multiplied by a student

$x \times \frac{3}{5}$ instead of

$x \times \frac{5}{3}$

Error ?

error - original / original

$\% \text{ error} = \frac{\frac{3x}{5} - \frac{5x}{3}}{5/3x} \times 100$

$\left(\frac{9x - 25x}{15} \div \frac{5x}{3}\right) \times 100$

$\left(\frac{-16\cancel{x}}{\cancel{15}_{5}} \times \frac{\overset{1}{\cancel{3}}}{5\cancel{x}}\right) \times 100$

$\left(\frac{-16}{25}\right) \times 10\cancel{0}^{4}$

3

-64% error

Q2

(A)

Solution:

Given:

Two numbers are in ratio = 3:5

If 9 is subtracted from them (from each) the new numbers ax in the xatio 12:23

Let two numbers be x and y

$$x : y = 3 : 5 \implies \frac{x}{y} = \frac{3}{5} \longrightarrow (1)$$

$$(x-9) : (y-9) = 12 : 23$$

$$\frac{x-9}{y-9} = \frac{12}{23} \longrightarrow (2)$$

By cross multiplication

$$23(x-9) = 12(y-9)$$

$$23x - 207 = 12y - 108$$

$$23x - 12y = 207 - 108$$

$$23x - 12y = 99 \longrightarrow (3)$$

DATE: __/__/____

$$23x - 12y = 99$$

$$x = \frac{3y}{5} \quad \text{From equation 1}$$

$$23\left(\frac{3y}{5}\right) - 12y = 99$$

$$\frac{69y - 60y}{5} = 99$$

$$9y = 99 \times 5$$

$$9y = 9 \times 11 \times 5$$

$$\boxed{y = 55}$$

and

$$x = \frac{3 \times 55}{5}$$

$$\boxed{x = 33}$$

Hence, the smaller number is 33

Ans

DATE __/__/____

C

Solution

Given

Avg weiget of A, B, C = 45kg

Avg A, B = 40kg

Avg B, C = 43kg

Weiget of B

$$\frac{A+B+C}{3} = 45$$

$A+B+C = 135 \longrightarrow (1)$

$\frac{A+B}{2} = 40$

$A+B = 80 \longrightarrow (2)$

putting (2) in (1)

$80+C = 135$

$C = 135-80$

$C = 45kg \longrightarrow (3)$

$\frac{B+C}{2} = 43 \longrightarrow (4)$

$B+C = 43 \times 2$

$B+C = 86$

$B+45 = 86$

$B = 86-45 = 41$

$\boxed{B = 41kg}$

DATE: __/__/____

(D)

Solution

Given -

$$x + 17 = \frac{60}{x} \longrightarrow \text{From Statement}$$

We have to Find x

$$x - \frac{60}{x} = -17$$

$$x^2 - 60 = -17x$$

$$x^2 + 17x - 60 \longrightarrow (1)$$

using quadratic formula

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$\frac{-17 \pm \sqrt{(17)^2 - 4(1)(-60)}}{2 \times 1}$$

$$\frac{-17 \pm \sqrt{289 + 60 \times 4}}{2}$$

$$x = \frac{-17 \pm \sqrt{529}}{2}$$

$$x = \frac{-17 \pm 23}{2}$$

$$x = \frac{-17 + 23}{2} \Rightarrow x = \frac{6}{2} = 3$$

$$\boxed{x = 3}$$