Q

a

Distinguish I.Q and E.Q.

I.Q	E.Q
i	It stands for Intelligence Quotient.	It stands for Emotional Quotient.
ii	Definition: A measure of cognitive abilities such as reasoning, problem-solving, and learning.	Definition: A measure of emotional intelligence, including the ability to recognize, manage, and influence emotions.
iii	Components: memory, problem-solving, mathematical ability, and linguistic skills.	Components: self-awareness, self-regulation, motivation, empathy and social skills.
iv	Importance: Critical for academic success, technical problem-solving, and intellectual pursuits.	Importance: Crucial for personal relationships, leadership, teamwork, and conflict resolution.

3.5

Add more arguments

b

What is the percentage present age of Aman, if after 20 years, his age will be 10 times his age 10 years back?

Let Aman's present age = x

After 20 years $= x + 20$

age 10 years ago $= x - 10$

After 20 years, Aman's age will be 10 times his age 10 years ago

$$x + 20 = 10(x - 10)$$
$$x + 20 = 10x - 100$$
$$20 + 100 = 10x - x$$
$$120 = 9x$$
$$\frac{120}{9} = x$$

$$13.33 \text{ years} = x$$

Aman's present age = 13.33 years

(C)

Peter can mow the lawn in 40 minutes and John can mow the lawn in 60 minutes. How long it will take for them to mow the lawn together?

Peter's rate = $\frac{1}{40}$ lawn per minute

John's rate = $\frac{1}{60}$ lawn per minute

Combining the both

$$= \frac{1}{40} + \frac{1}{60}$$

$$= \frac{3 + 2}{120} = \frac{5}{120}$$

$$\text{time} = \frac{1}{\text{combined rate}} = \frac{1}{5/120} = \frac{120}{5} = 24 \text{ minutes}$$

Both will take 24 minutes to mow the lawn.

d

A person multiplied a number by $3/5$ instead of $5/3$. what is the percentage error?

let number be u

Correct multiplication $= u \times \dfrac{5}{3}$

incorrect multiplication $= u \times \dfrac{3}{5}$

$$\text{error} = \left(u \times \dfrac{5}{3} \right) - \left(u \times \dfrac{3}{5} \right)$$

$$= u \left(\dfrac{5}{3} - \dfrac{3}{5} \right)$$

$$= u \left(\dfrac{16}{15} \right)$$

$$\text{percentage error} = \dfrac{\text{error}}{\text{corrected result}} \times 100$$

$$= \left(\dfrac{u \times \frac{16}{15}}{u \times \frac{5}{3}} \right) \times 100$$

$$= \left(\dfrac{16}{15} \times \dfrac{3}{5} \right) \times 100$$

$$\text{percentage error} = \dfrac{48}{75} \times 100 = 64\%$$

(red marks) ✓ 4

Write the final answer in the form of statement