**Student Name:**

Gambling has been institutionalized in human civilizations through ages. As such, the human race has a natural propensity to gambling. Suppose that you *will* gamble one out of four times! Now, suppose that you come across a situation where you have the option to walk away with $20 or partake in a gamble. The gamble may yield $50 with a 40% chance or $10 with 60% chance.

Under this circumstance, what is the expected money you will make?

Gamble → 25% chance

Hence, not gamble → 75% chance

$$26 = EV_{gamble}$$

$$(.4) \nearrow \$50$$
$$\searrow (.6)$$
$$\searrow \$10$$
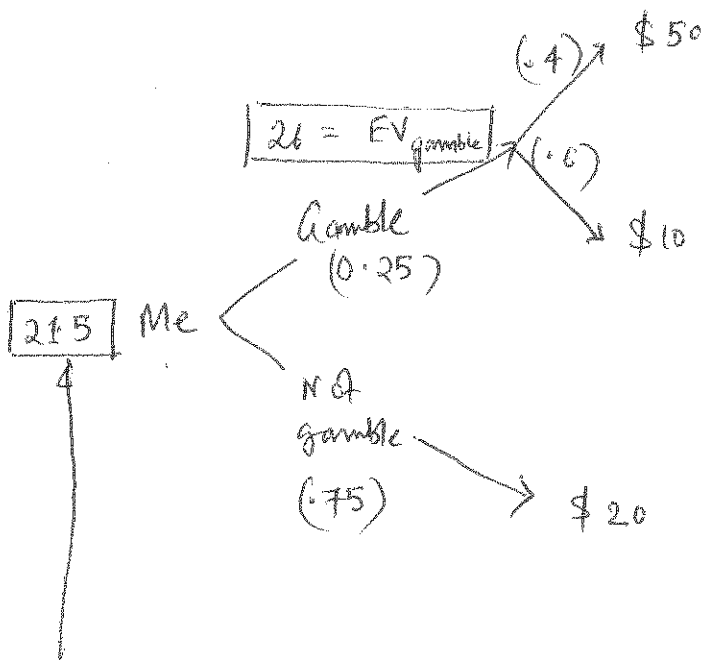
$$EV_{gamble} = 50 \times .4 + 10 \times .6$$
$$= 20 + 6 = 26$$

$$21.5 \quad Me$$

Gamble (0·25)

Not gamble (·75) → $20

$$Total\ expected\ value = 26 \times 0.25 + 20 \times 0.75$$
$$= 6.5 + 15$$
$$= 21.5$$

Therefore, the expected money to be made is $21.50. Ans