Qlt1 quantitative literacy report

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A. 1. The real scenario picked is option four, which talks about a teacher trying to identify the best option in buying school supplies for a classroom. The teacher is presented with two options, of where to purchase the supplies. The first option is to obtain the supplies from a company designated A, which is offering a discount for every dollar spent. In this option, the teacher's total amount for purchasing the supplies is discountable regardless of the amount. The other option is Company B, which is offering a higher discount than company A. However, the discount offered in Company B is only applicable for every dollar spent above $ 20. This implies that purchases below $20 are not discountable. The discount only applies to purchases above $20 and again, not all the amount is discountable. Only the excess of $20 is discountable. At face value, the deal in company A looks preferable and more pocket friendly compared to B. However, the better price will only be achieved depending on the quantity of supplies purchased.

A. 2. The need of the teacher is to purchase school supplies at a lower price. Therefore, there is call on the teacher to choose an option that will help him/her save a more money. However, price is only one factor that governs

purchasing preferences of buyers. There are other considerations like quality, money-return guarantee, transportation cost, availability of other services offered by the seller, for instance after sale services like transportation, among others. Though this the answer to this question will offer the teacher a cost effective approach to purchasing the supplies, the final decision on where to purchase from rests with the teacher, and the teacher's needs will play a significant role during the decision making process.

A. 3. The two cost options that are considered are the cost options in company A and company B. Company A offers higher discount that company B. With reference to company A, the discount is applicable to the whole amount worth of purchase. However, with company B, discount is only offered for every dollar after the first $20 worth of purchase. This means that discount will only be applicable after the first $20. The difference between the actual amount worth of purchase and $20 is calculated and then used to apply the discount. It follows therefore that any amount less than $20 is not discountable.

Assuming that the discount by Company A is 10% and that Company B is 15% and taking

x = cost before discount and y = cost after discount;

For Company A, x and y will be related by the equation;

$y = 0.9x$ {the assumed percentage discount for Company A is 10%. Hence, 90% becomes the total amount after the discount. Logically, $0.90x$ yields y, which is the amount after the deduction of the discount}

And For company B, x and y will related by the equation;

$y = x - 0.15(x-20)$ {In this equation, 0.15 is the assumed discount of 15% by company B. $(x-20)$ gives the discountable amount since company B only discount every dollar above $20 worth of purchase. Multiplying 0.15 with $(x-20)$ yields the total discount which has to be deducted from the total purchase thence; $y = x - 0.15(x-20)$. It is imperative to note that this equation is only valid for x ✆ 20. Otherwise, when $x < 20$, equation $y = x$ holds since such a purchase is not discountable}

Discussion

The solution to the above simultaneous equations gives the coordinates of the intersection point of the two lines if solved graphically. It is therefore clear that at point (60, 54) the discounts by both companies will be equal, hence the teacher can either buy from company A or B at the same price. Recalling that x was used to designate the price before discount and y, the price after discount, we can explain what (60, 54) means. (60, 54) means that the total amount spent of the purchases before discount is $60. The amount payable after the discount is $54 (same regardless of whether the purchase was made at company A or B)

Analysis

This section analyses the discounts permissible by each company when the worth of purchase before discount falls below $60 and above $60. Taking an amount that less than $60, say $50;

Recommendation

It is evident that when the total worth of purchase falls below $60, company A offers a higher discount hence is preferable. However, when the total worth of purchase is higher than $60, company B offers a higher discount hence is preferable. It is important to note that the recommendation given here is limited to the price of the supplies. However, there exist other factors that may affect the teacher's decision to purchase the supplies from either Company A or B. These factors include availability of the supplies, quality of the supplies, distance between the companies and the school, and availability of after-sale services among other factors.