Rewriting Equations for Perspectives

Let's match and rewrite linear equations.

16.1 No Bad Apples

Which option would you select? Use mathematical reasoning to explain your choice.

Option A: Each apple costs $0.97 and is on sale with a "Buy 2, Get 1 Free" offer.

Option B: Bags of 6 apples are on sale "2 for $7.50" but you must buy 2 bags.

16.2 A Charity Shopping Trip

A person has collected a lot of money for providing clothing to those in need. The person goes to a store to buy several clothing items with the money collected.

Take turns with your partner to match a description of a situation with an equation that represents the situation. Be prepared to explain your reasoning.

- For each match that you find, explain to your partner how you know it's a match.
- For each match that your partner finds, listen carefully to their explanation. If you disagree, discuss your thinking and work to reach an agreement.

1. A store charges \$6 for each shirt sold. A person buys x shirts and pays y dollars for the total.
2. A store charges \$6 for each pair of shorts sold. They also offer a \$3 coupon to be used on the entire order. A person buys x pairs of shorts and pays y dollars for the total after using the coupon.
3. A store charges \$6 for 3 pairs of socks. A person buys x pairs of socks and pays y dollars for the total.
4. A store charges \$6 for each pair of shoes sold and also charges \$3 to lace up all of the shoes in the entire order. A person buys x pairs of shoes and pays y dollars for the total including lacing up all the shoes.
5. A store charges \$3 for 6 handkerchiefs. A person buys x handkerchiefs and pays y dollars for the total.
6. A store charges \$3 for each pair of gloves sold. They also offer a \$6 coupon to be used on the entire order when there are more than 4 pairs of gloves purchased. A person buys x pairs of gloves (with $x > 4$) and pays y dollars for the total after using the coupon.

- $y = 6x$
- $y = \frac{6x}{3}$
- $y = \frac{3x}{6}$
- $y = 3x - 6$
- $y = 6x - 3$
- $y = 6x + 3$

16.3 Isolate the x

Rearrange the equations so that one side of the equation is only x. Be prepared to explain or show your reasoning.

1. $T = x - 2$

2. $T = 2x$

3. $T = 2x - 1$

4. $T = \frac{x}{2}$

5. $T = 2(x - 1)$

6. $T = \frac{x-1}{2}$