

You have two coupons to use at a store, one gives you 10% off and the other gives you \$20 off. You are allowed to use both coupons for the same purchase.

- Does it matter which one you use first?
- If yes, which one should you use first?

Yes, it matters. You should use the 10% off coupon first. See the next page.

Functions to find the Final Price after a given discount:

10% off
 $P(x) = 0.9x$

$x = \text{Original Price}$

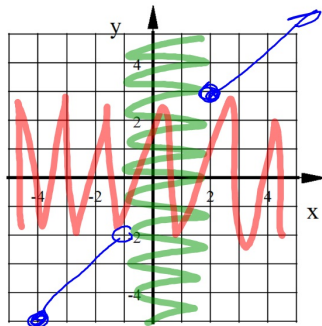
\$20 off
 $T(x) = x - 20$

When you use the \$20 off coupon first you are taking 10% off a smaller number. It turns out that you are actually only getting \$18 off.

10% off first: $T(P(x)) = 0.9x - 20$

\$20 off first: $P(T(x)) = 0.9(x - 20) = 0.9x - 18$

Sketch a graph with the following Domain and Range:



Domain:
 $-4 < x \leq -1, x \geq 2$

Range:
 $-5 \leq y < -2, y \geq 3$

Solve for E . State Restrictions on the variables.

$$\textcircled{CTG} \left(\frac{WE - KR}{CT} \right) = \left(Z - \frac{E + M}{G} \right) \textcircled{CTG}$$

$$G(WE - KR) = ZCTG - CT(E + M)$$

$$GWE - GKR = ZCTG - CTE - CTM$$

$$GWE + CTE = ZCTG - CTM + GKR$$

$$\frac{E(GW + CT)}{GW + CT} = \frac{ZCTG - CTM + GKR}{GW + CT}$$

$$GW + CT \neq 0$$