

ex. 2 p. 680

$x = \$60$ $y = 45 \text{ units}$

$$(\text{price})(\#) = \text{income}$$

\$60 45
\$45 on sale 75

$$(\text{price} - x)(\# + y) = \text{income}$$

$$x \cdot y = 2700$$

$$(x - 15)(y + 30) = 3375$$

$$(xy) + 30x - 15y - 450 = 3375$$

$$2700 + 30x - 15y - 450 = 3375$$

$$30x - 15y = 1125$$

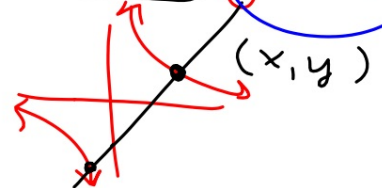
$$xy = 2700$$

$$y = \frac{2700}{x}$$

$$\frac{-15y}{-15} = \frac{-30x + 1125}{-15}$$

$$y = 2x - 75$$

x', y'



$$x = 60$$

$$30x - 15y = 1125$$

$$30 \cdot 60 - 15y = 1125$$

$$1800 - 15y = 1125$$

$$-15y = -675$$

$$y = 45$$

$$xy = 2700 \rightarrow y = \frac{2700}{x}$$

$$40,500$$

$$30x - 15 \cdot \frac{2700}{x} = 1125$$

$$30x - \frac{40500}{x} = 1125$$

$$30x^2 - 40,500 = 1125x$$

$$2x^2 - 2700 = 75x$$

$$2x^2 - 75x - 2700 = 0$$

a b c

$$x = \frac{75 \pm \sqrt{(-75)^2 - 4 \cdot 2 \cdot (-2700)}}{4}$$

$$x = \frac{75 \pm \sqrt{27225}}{4} = \frac{75 \pm 165}{4} =$$

$$x = 60$$

$$x = -22.5$$

WB 10.8 + ex. 2 p. 680