

$$4(r - 50)(r + 50) \frac{300}{r - 50} +$$

$$4(r - 50)(r + 50) \frac{300}{r + 50} = 4(r - 50)(r + 50) \frac{7}{4}$$

$$1200(r + 50) + 1200(r - 50) = 7[(r - 50)(r + 50)]$$

$$1200r + 60,000 + 1200r - 60,000 = 7(r^2 - 2500)$$

$$2400r = 7r^2 - 17,500$$

$$0 = 7r^2 - 2400r - 17,500$$

$$r = \frac{-(-2400) \pm \sqrt{(-2400)^2 - 4(7)(-17,500)}}{2(7)}$$

$$= \frac{2400 \pm \sqrt{5,760,000 + 490,000}}{14}$$

$$= \frac{2400 \pm \sqrt{6,250,000}}{14} = \frac{2400 \pm 2500}{14}$$

$$= 350 \left(\frac{2400 - 2500}{14} \text{ is negative} \right)$$