$$-3F \cdot \left(\frac{d}{\sqrt{d^2 + (1{,}5)^2}} \right) + 80 = 0 \quad ; \quad F = 50\left(\sqrt{d^2 + (1{,}5)^2} - 1{,}5\right)$$

$$80 - \frac{3d}{\sqrt{d^2 + (1{,}5)^2}} \cdot \left[50\left(\sqrt{d^2 + (1{,}5)^2} - 1{,}5\right)\right] = 0$$

$$80 - \frac{3d\left\{\left[50\left(\sqrt{d^2 + (1{,}5)^2} - 1{,}5\right)\right]\right\}}{\sqrt{d^2 + (1{,}5)^2}} = 0$$

$$80 - \frac{150d\left(\sqrt{d^2 + (1{,}5)^2} - 1{,}5\right)}{\sqrt{d^2 + (1{,}5)^2}} = 0 \;\Big/ : 150$$

$$\frac{d\left(\sqrt{d^2 + (1{,}5)^2} - 1{,}5\right)}{\sqrt{d^2 + (1{,}5)^2}} = 0{,}5333$$

$$\frac{d\sqrt{d^2 + (1{,}5)^2} - 1{,}5d}{\sqrt{d^2 + (1{,}5)^2}} = 0{,}5333$$

$$d\sqrt{d^2 + (1{,}5)^2} - 1{,}5d = 0{,}5333\sqrt{d^2 + (1{,}5)^2}$$

$$(d - 0{,}5333)\sqrt{d^2 + (1{,}5)^2} = 1{,}5d \;/^2$$

$$(d - 0{,}5333)^2(d^2 + 2{,}25) = 2{,}25d^2$$

$$(d^2 - 1{,}0666d + 0{,}2844)(d^2 + 2{,}25) = 2{,}25d^2$$

$$d^4 + 2{,}25d^2 - 1{,}0666d^3 - 2{,}3998d + 0{,}2844d^2 + 0{,}6399 - 2{,}25d^2 = 0$$

$$\boxed{d^4 - 1{,}0666d^3 + 0{,}2844d^2 - 2{,}3998d + 0{,}6399 = 0} \;/ : d^2$$