



(a)  $h = 1000$  mm (hole complete)

$$I_x = \frac{1}{3} (1250)(1750^3) - \left[ \frac{1}{12} (750)(375)^3 + 750(375) \left( 1000 + \frac{375}{2} \right)^2 \right]$$

$$= \underline{1.833 (10^{12}) \text{ mm}^4 \text{ or } 1.833 \text{ m}^4}$$

(b)  $h = 1500$  mm (250 mm of hole in play)

$$I_x = \frac{1}{3} (1250)(1750^3) - \left[ \frac{1}{12} (750)(250)^3 + 750(250) \left( 1500 + \frac{250}{2} \right)^2 \right]$$

$$= \underline{1.737 (10^{12}) \text{ mm}^4 \text{ or } 1.737 \text{ m}^4}$$