

$$5. \quad b = 20 \text{ in}, \quad h = 7 \text{ in} \quad \frac{1}{8} \text{ in}$$

$$A = \frac{1}{2}bh$$

$$dA = \frac{\partial A}{\partial b} \cdot (db) + \frac{\partial A}{\partial h} \cdot (dh)$$

$$dA = \left(\frac{1}{2}h\right)db + \left(\frac{1}{2}b\right)dh$$

$$= \left(\frac{1}{2} \cdot 7 \text{ in}\right)\left(\pm \frac{1}{8} \text{ in}\right) + \left(\frac{1}{2} \cdot 20 \text{ in}\right)\left(\pm \frac{1}{8} \text{ in}\right)$$

$$= \pm \left[.4375 \text{ in}^2 + 1.25 \text{ in}^2\right]$$

$$= \pm 1.69 \text{ in}^2$$