$$a = x^2(y+z)z$$

$$\Delta a = \sqrt{\left(\frac{\delta a}{\delta x}\Delta x\right)^2 + \left(\frac{\delta a}{\delta y}\Delta y\right)^2 + \left(\frac{\delta a}{\delta z}\Delta z\right)^2}$$

$$\frac{\delta a}{\delta x} = x^2(y+z)z = \left[yzx^2 + yx^2z^2\right] = 2xyz + 2xyz^2 = 2xyz(1+z)$$

$$\frac{\delta a}{\delta y} = x^2(y+z)z = \left[yzx^2 + yx^2z^2\right] = zx^2 + x^2z^2 = zx^2(1+z)$$

$$\frac{\delta a}{\delta z} = x^2(y+z)z = \left[yzx^2 + yx^2z^2\right] = yx^2 + 2yx^2z = yx^2(1+2z)$$

$$x = 2.51, \Delta x = 0.01$$
$$y = 3.67, \Delta y = 0.02$$
$$z = 5.82, \Delta z = 0.03$$

$$\Delta a = \sqrt{\left(\frac{\delta a}{\delta x}\Delta x\right)^2 + \left(\frac{\delta a}{\delta y}\Delta y\right)^2 + \left(\frac{\delta a}{\delta z}\Delta z\right)^2} \rightarrow$$

$$\sqrt{(2xyz(1+z)\Delta x)^2 + (zx^2(1+z)\Delta y)^2 + (yx^2(1+2z)\Delta z)^2}$$

$$= \sqrt{4x^2y^2z^2(1+z)^2\Delta x^2 + z^2x^4(1+z)^2\Delta y^2 + y^2x^4(1+2x)^2\Delta z^2}$$

$$\approx 12.46$$
$$a \approx 347.97$$

$$f(x,y) = 5x + 6y$$
$$\frac{\delta f}{\delta x} = [5x] + [6y]$$