2a. $x^2y^2 = x+2$

$(x^2y^2)' = (x+2)'$

$2xy^2 + x^2 2y \cdot y' = 1$

solve for y':

$-2xy^2$ $\qquad$ $-2xy^2$

$x^2 2y \cdot y' = 1 - 2xy^2$

$$\boxed{y' = \frac{1-2xy^2}{2x^2y}}$$

4b. $\sin(y) + y = x^3 + x \qquad (0,0)$

$$(\sin(y) + y)' = (x^3 + x)$$

$$\cos(y) \cdot y' + y' = 3x^2 + 1$$

$$(\cos(y) + 1)\, y' = 3x^2 + 1$$

$$y' = \frac{3x^2 + 1}{\cos(y) + 1}$$

Find the target line at $(0,0)$

$$y'\Big|_{(0,0)} = \frac{3 \cdot 0 + 1}{\cos(0) + 1} = \frac{1}{2}$$

$$y - 0 = \tfrac{1}{2}(x - 0)$$

$$\boxed{y = 0 + \tfrac{1}{2}(x - 0)}$$