f) $$\ldots = \frac{3.(3-2x)^{1} - 2x}{3(3-2x)^{2/3}} = \frac{9-6x-2x}{3(3-2x)^{2/3}} = \frac{9-8x}{3(3-2x)^{2/3}}$$

g) $$\left(\sqrt[4]{x^3+2x}\right)' = \left[(x^3+2x)^{1/4}\right]'$$
$$= \frac{1}{4}(x^3+2x)^{-3/4}.(3x^2+2) = \frac{3x^2+2}{4.(x^3+2x)^{3/4}}$$

h) $$\left(\frac{x^2}{1-x}\right)^{2/3} = \frac{2}{3}\cdot\left(\frac{x^2}{1-x}\right)^{-\frac{1}{3}}\cdot\left(\frac{x^2}{1-x}\right)'$$
$$= \frac{2}{3}\cdot\left(\frac{1-x}{x^2}\right)^{\frac{1}{3}}\cdot\frac{2x(1-x) - x^2.(-1)}{(1-x)^2}$$
$$= \frac{2}{3}\cdot\left(\frac{1-x}{x^2}\right)^{\frac{1}{3}}\cdot\frac{2x-2x^2+x^2}{(1-x)^2}$$
$$= \frac{2}{3}\cdot\left(\frac{1-x}{x^2}\right)^{\frac{1}{3}}\cdot\frac{2x-x^2}{(1-x)^2}$$

i) $$\left[(2-x)^2.\sqrt{x^2-1}\right]' = 2.(2-x).(-1).\sqrt{x^2-1} + (2-x)^2.\frac{1}{\cancel{2}\sqrt{x^2-1}}\cdot\cancel{2}x$$
$$= \frac{-2(2-x).(x^2-1) + (2-x)^2.x}{\sqrt{x^2-1}}$$
$$= \frac{(2-x).\left[-2(x^2-1) + (2-x).x\right]}{\sqrt{x^2-1}}$$
$$= \frac{(2-x).(-2x^2+2+2x-x^2)}{\sqrt{x^2-1}} = \frac{(2-x).(-3x^2+2x+2)}{\sqrt{x^2-1}}$$

j) $$\left(\sqrt{\frac{x^2}{x^2-1}}\right)' = \frac{1}{2.\sqrt{\frac{x^2}{x^2-1}}}\cdot\left(\frac{x^2}{x^2-1}\right)'$$
$$= \frac{1}{2}\cdot\sqrt{\frac{x^2-1}{x^2}}\cdot\frac{2x(x^2-1) - x^2.2x}{(x^2-1)^2}$$
$$= \frac{1}{2}\cdot\sqrt{\frac{x^2-1}{x^2}}\cdot\frac{2x(\cancel{x^2}-1-\cancel{x^2})}{(x^2-1)^2}$$
$$= \sqrt{\frac{x^2-1}{x^2}}\cdot\frac{-x}{(x^2-1)^2}$$