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1) $y = x^3 - x$

$\frac{dy}{dx} = 3x^2 - 1$

x	0	1	1.5	2
gradient	-1	2	5.75	11

b) $x = p$

$3(p)^2 - 1$

c) $3(0.5)^2 - 1 = -\frac{1}{4} = -0.25$

2) $y = x^2$

tangent A $(2, 4)$

$\frac{dy}{dx} = 2x$

gradient $= 2(2) = 4$

b) i) $\frac{9-4}{3-2} = 5$

ii) $\frac{6.25-4}{2.5-2} = 4.5$

iii) $\frac{4.41-4}{2.1-2} = 4.1$

iv) $\frac{4.0401-4}{2.01-2} = 4.01$

v) $\frac{(2+h)^2 - 4}{(2+h) - 2} = \frac{h^2 + 4h + 4 - 4}{2+h-2} = \frac{h^2+4h}{h} = h + 4$