$g(t) = \frac{1}{t-5}$ $\quad [-2, b]$

$g(-2) = \frac{1}{-2-5}$

$= -\frac{1}{7}$

$\left(-2, -\frac{1}{7}\right)$

$g(b) = \frac{1}{b-5}$

$\left(b, \frac{1}{b-5}\right)$

$\frac{y_2 - y_1}{x_2 - x_1}$

A.R.O.C $= \dfrac{7\left(\frac{1}{b-5}\right) + \left(\frac{1}{7}\right)\left(\frac{b-5}{b-5}\right)}{b+2}$

$\dfrac{\frac{7}{7(b-5)} + \frac{b-5}{7(b-5)}}{b+2}$

$\dfrac{\frac{b+2}{7(b-5)}}{\frac{b+2}{1}} \cdot \frac{1}{b+2}$

$\frac{1}{7(b-5)}$

7) $f(x) = 2x^2 - 5 \quad [-3, -3+h]$

$f(-3) = 2(-3)^2 - 5$

$= 13$

$(-3, 13)$

$x_1 \quad y_1$

$(-3+h)^2$

$(-3+h)(-3+h)$

$f(-3+h) = 2(-3+h)^2 - 5$

$= 2(9 - 6h + h^2) - 5$

$= 18 - 12h + 2h^2 - 5$

$= 13 - 12h + 2h^2$

$(-3+h, \; 13 - 12h + 2h^2)$

$x_2 \quad y_2$

$$ARC = \frac{13 - 12h + 2h^2 - 13}{-3 + h + 3}$$

$$= \frac{-12h + 2h^2}{h} = \frac{\cancel{h}(-12 + 2h)}{\cancel{h}} = 2h - 12$$

$f(x) = 10x - 3$ $\quad [x, x+h]$

$(x, 10x-3)$

$f(x+h) = 10(x+h) - 3$

$= 10x + 10h - 3$

$(x+h, 10x+10h-3)$

$$\frac{10x+10h-3-(10x-3)}{x+h-x} = \frac{\cancel{10x}+10h-\cancel{3}-\cancel{10x}+\cancel{3}}{\cancel{x}+h-\cancel{x}}$$

$$\frac{10h}{h} = 10$$

$h(x) = 7x - 3 \qquad [a, c]$

$h(a) = 7a - 3 \qquad h(c) = 7c - 3$

$(a, 7a-3) \qquad (c, 7c-3)$

$$\frac{7c-3-(7a-3)}{c-a} = \frac{7c-3-7a+3}{c-a}$$

$$\frac{7c-7a}{c-a}$$

$$\frac{7(c-a)}{c-a} = 7$$