

(A)

$$9x^2 - 4 \sqrt{\frac{9x^2 + 4}{9x^2 - 4}}$$

$$\therefore \frac{9x^2 + 4}{9x^2 - 4} = 1 + \frac{8}{(3x-2)(3x+2)}$$

$$\frac{8}{(3x-2)(3x+2)} = \frac{B}{3x-2} + \frac{C}{3x+2}$$

$$\therefore 8 = B(3x+2) + C(3x-2)$$

let $x = -2/3$

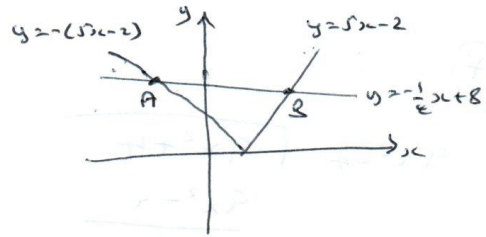
$$\therefore 8 = -4C \Rightarrow C = -2$$

let $x = 2/3$

$$\therefore 8 = 4B \Rightarrow B = 2$$

$$\therefore A = 1, B = 2, C = -2$$

(13) a) $|5x-2| = -\frac{1}{4}x+8$



A is where $-(5x-2) = -\frac{1}{4}x+8$

$\therefore -5x+2 = -\frac{1}{4}x+8$

$\therefore -6 = \frac{4^3}{4}x$

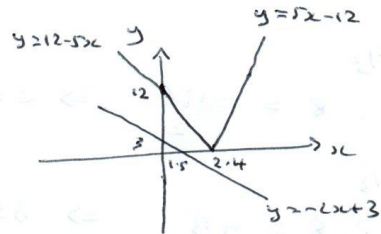
$\therefore x = -24/19$

B is where $(5x-2) = -\frac{1}{4}x+8$

$\therefore 5\frac{1}{4}x = 10$

$\therefore x = 40/19$

b) $|12-5x| = -2x+3$



No solution (from graph)

check $12-5x = -2x+3$

$9 = 3x$

$x = 3$

sub in equation $|12-5 \times 3| = -2 \times 3 + 3$

$\therefore |1-3| = -3$

$3 = -3$ ✗

check

$5x-12 = -2x+3$

$7x = 15$

$x = 15/7$

sub in equation

$|12-5 \times 15/7| = -2 \times 15/7 + 3$

$|9/7| = -9/7$

$9/7 = -9/7$ ✗