4.8 : 16.

$$3 \sin x = x$$

$$f(x) = 3 \sin x - x$$

$$f'(x) = 3 \cos x - 1$$

x	$x - f(x)/f'(x)$
$\frac{2}{3}\pi$	2.2958675
2.2958675	2.2789718
~~2.278862~~	
2.2789718	2.2788627
2.2788627	2.2788627

4.8: 34.
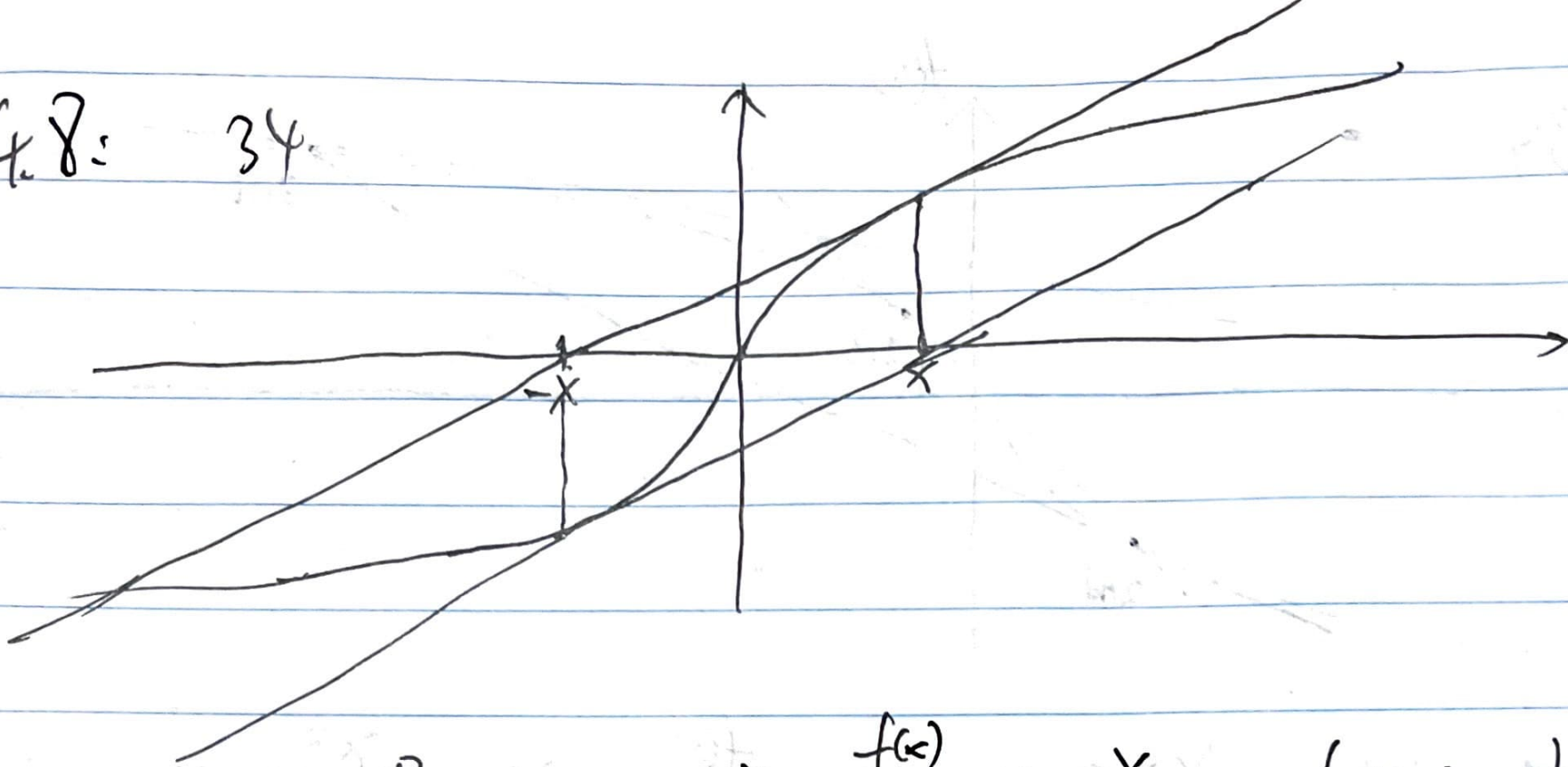
Because $x - \dfrac{f(x)}{f'(x)} = -x$, ~~f(x) is too~~

the ~~new~~ points are bouncing back and forth

between $(x, f(x))$ and $(-x, f(-x))$, it will

never converge.

4.9: 40.

$$f''(x) = 8x^3 + 5, \quad f(1) = 0, \quad f'(1) = 8$$

$$f'(x) = \int 8x^3 + 5 \, dx = 2x^4 + 5X + C$$

$$f'(1) = 2 + 5 + C = 8, \quad C = 1$$

$$f'(x) = 2x^4 + 5X + 1$$

$$f(x) = \int 2x^4 + 5x + 1 \, dx = \tfrac{2}{5}x^5 + \tfrac{5}{2}X^2 + X + D$$

$$f(1) = \tfrac{2}{5} + \tfrac{5}{2} + 1 + D = 0, \quad D = -\tfrac{39}{10}$$

$$f(x) = \tfrac{2}{5}X^5 + \tfrac{5}{2}X^2 + X - \tfrac{39}{10}$$

4.9 : 52.

When $f > 0$, only a and c are increasing, when $f < 0$, among a and c, only a is decreasing. So f is derivative of a. And a is the anti-derivative of f.

4.9: 54