

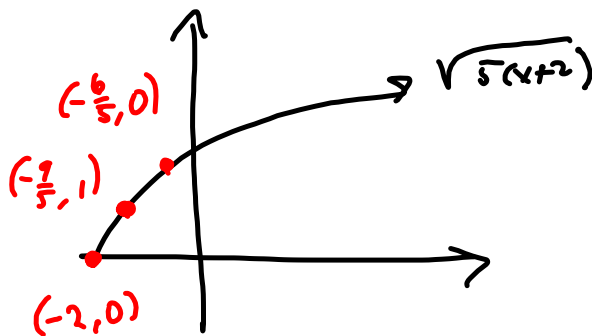
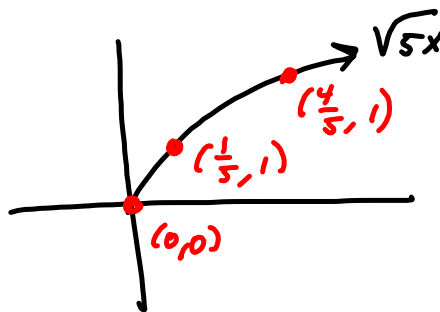
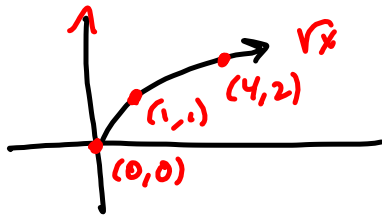
Stuff not in Text
 Handling the $5x+10$ in $\sqrt{5x+10}$
 or $-5x+10$ in $\sqrt{-5x+10}$

M1:
 $5x+10$
 $= 5(x+2)$

$\sqrt{x} \rightarrow \sqrt{5x} \rightarrow \sqrt{5(x+2)}$

Divide
 x by 5
 (Replaced
 x by $5x$)

LEFT
 2
 Replaced
 x by $x+2$



$$\frac{1}{5} - 2 = \frac{1-10}{5} = -\frac{9}{5}$$

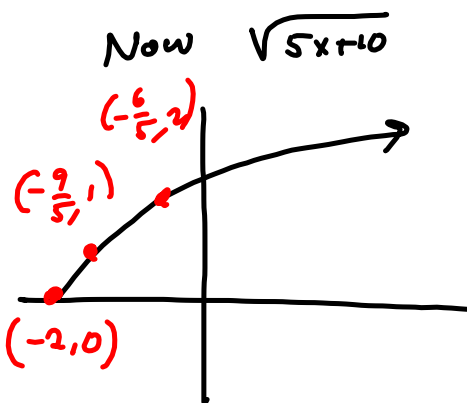
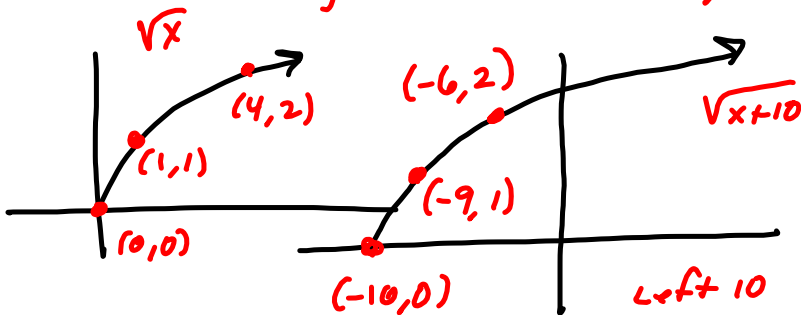
$$\frac{4}{5} - 2 = \frac{4-10}{5} = -\frac{6}{5}$$

M2 Do shift, then
x-shift

$$\sqrt{x} \rightarrow \sqrt{x+10} \rightarrow \sqrt{5x+10}$$

Left 10 Divide x 's by 5

Replaced x by $x+10$ Replaced x by $5x$



Same Picture!
(See previous)

Most common mistake

$$\sqrt{x} \rightarrow \sqrt{5x} \rightarrow \sqrt{5x+10}$$

Divide
x by 5
is cool
Left 10 is
NOT cool.

$\sin(x)$

$\sin(3x)$

$\sin(\pi x)$

There is no rule for replacing $5x$ by $5x+10$!
 ONLY Rules for replacing x by some thing

SHOULD factor out the 5 if you're doing M1: $\sqrt{x} \rightarrow \sqrt{5x} \rightarrow \sqrt{5(x+2)}$
Left 2

AND M2: $\sqrt{x} \rightarrow \sqrt{x+10} \rightarrow \sqrt{5x+10}$
Replace x by x+10 Replace x by 5x