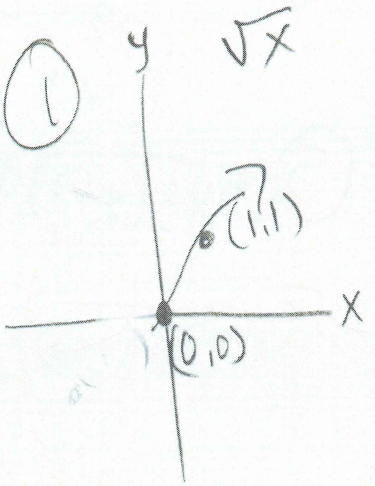
MAT 121 WP #2 Cachero

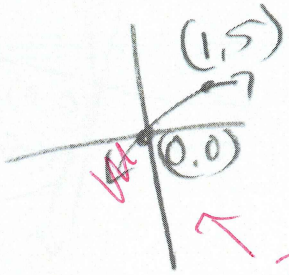
26.5
50

1. $g(x) = 5\sqrt{3x-21}-2$
$= 5\sqrt{3(x-21}-2$

① $y = \sqrt{x}$

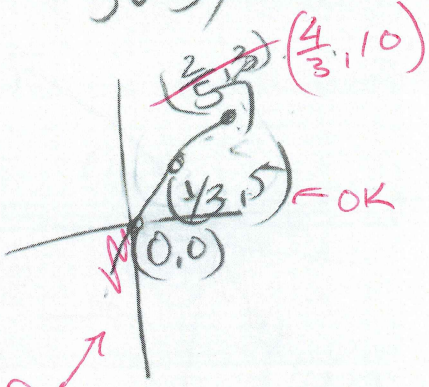


② $5\sqrt{x}$

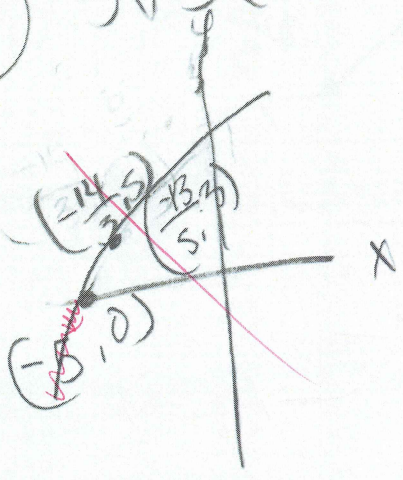


It stops @ (0,0)

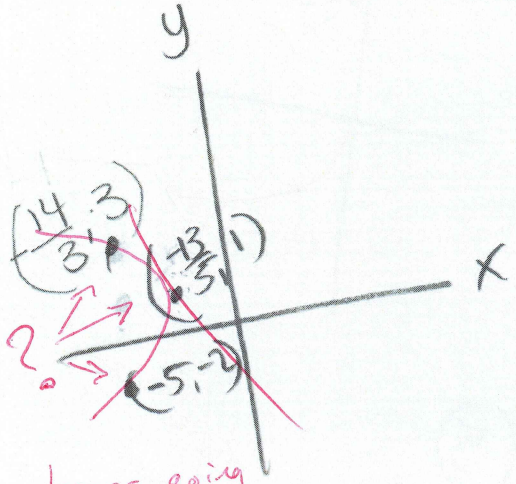
③ $5\sqrt{3x}$



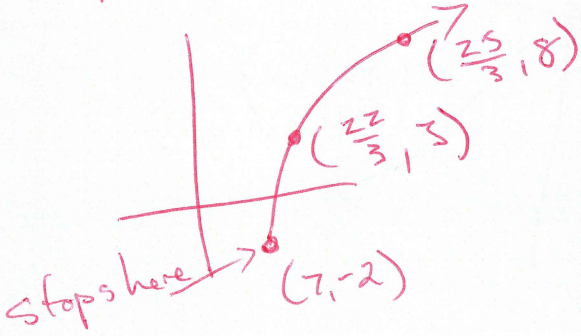
④ $5\sqrt{3(x-7)}$



⑤ $5\sqrt{3(x-7)}-2$



Ends up being ... keeps going



+3

MAT 121 WP2 Cachero

② $g(x) = -5\sqrt{3x-21}+2$

① $\sqrt{x}$

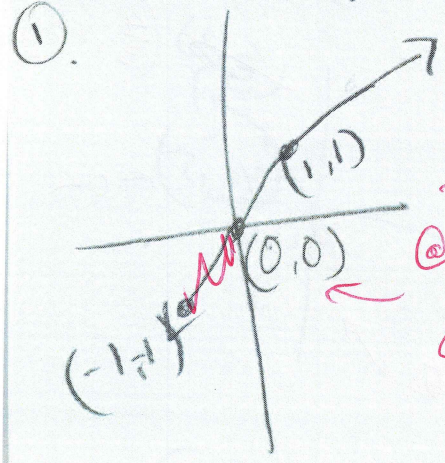
② $-5\sqrt{x}$ $(1,-5)$

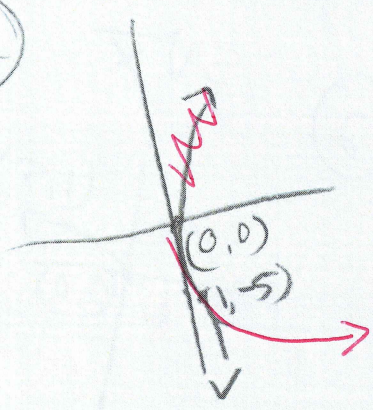
③ $-5\sqrt{3}$ $(\frac{1}{3},-5)$

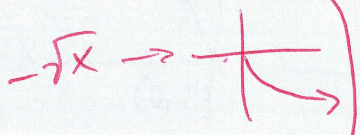
④ $-5\sqrt{3(x-7)}$ $(\frac{22}{3},-5)$

⑤ $-5\sqrt{3(x-7)}+2$

$\sqrt{x}$

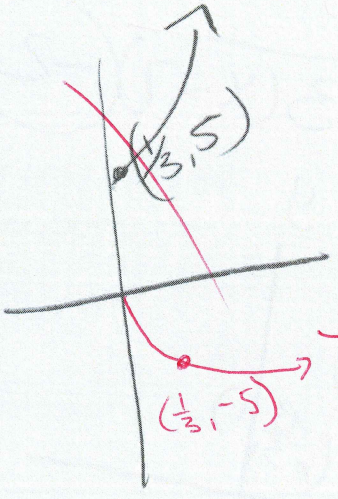
① 

② 

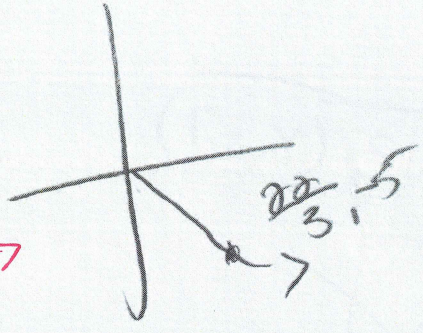
$-\sqrt{x}$ → 

Shift Right

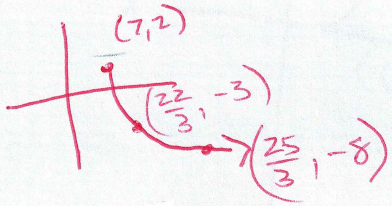
Shift up

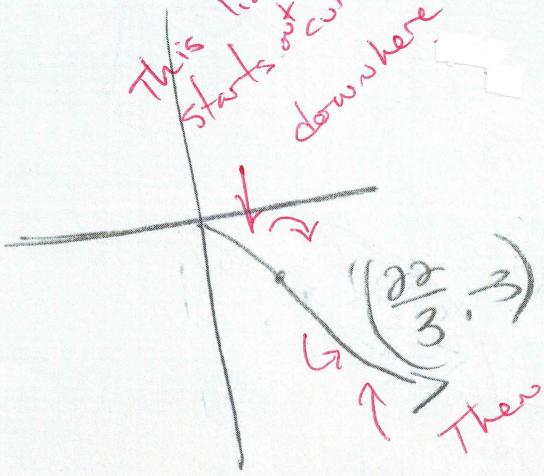
③ 

→ how? →

④ 

Ends up as...



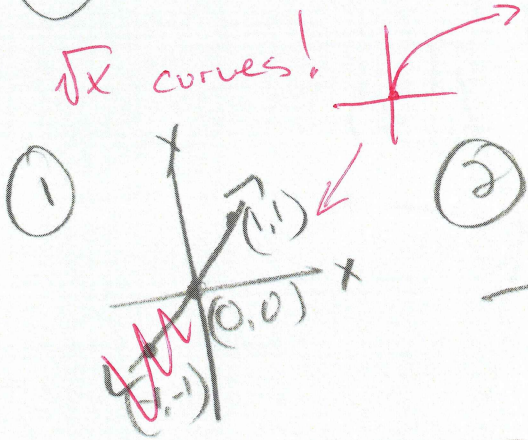
⑤ 

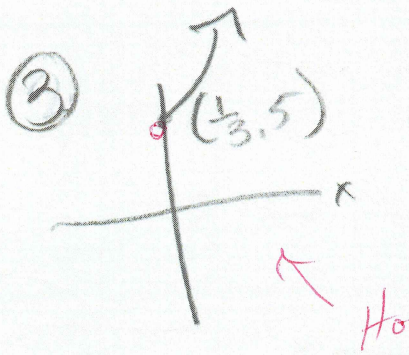
* 2

Math 21 wp #2 Name

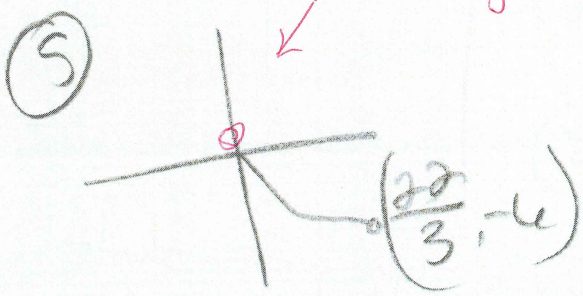
③ $g(x) = -5\sqrt{-3x-21}-11$

$\sqrt{x}$ curves!





How did (0,0) change?



① $\sqrt{x} = (1,1)$ ✓

② $5\sqrt{x}$ (1,5) ✓

③ $5\sqrt{3}\cdot(\frac{1}{3},5)$ ✓

④ $5\sqrt{-3(x+7)}$ ✓

-3 factors, ⇒ flip function

$\frac{1}{3}$ #7, 5

$(\frac{22}{3},5)$

⑤ $5\sqrt{3(x+7)}-11$

$(\frac{22}{3},-6)$

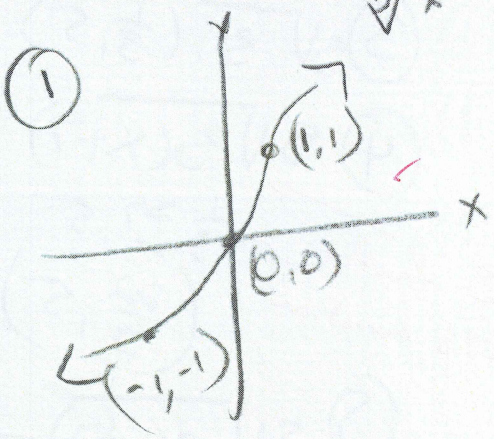
+2

Mat 121 wp #2 Cacheno

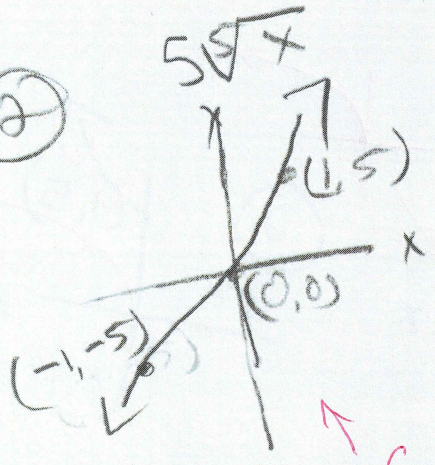
No #4?

⑤ $g(x) = 5\sqrt[5]{3x+21} - 6$

① $5\sqrt[5]{x}$

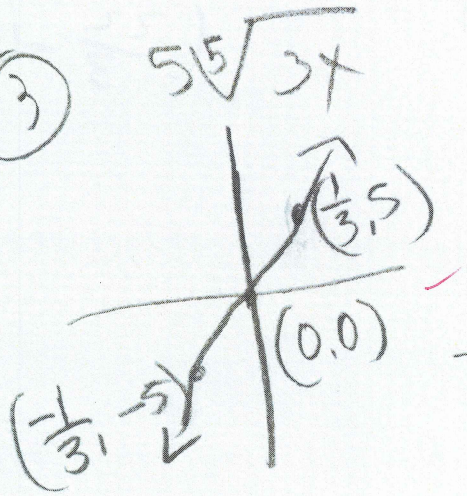


② $5\sqrt[5]{x}$

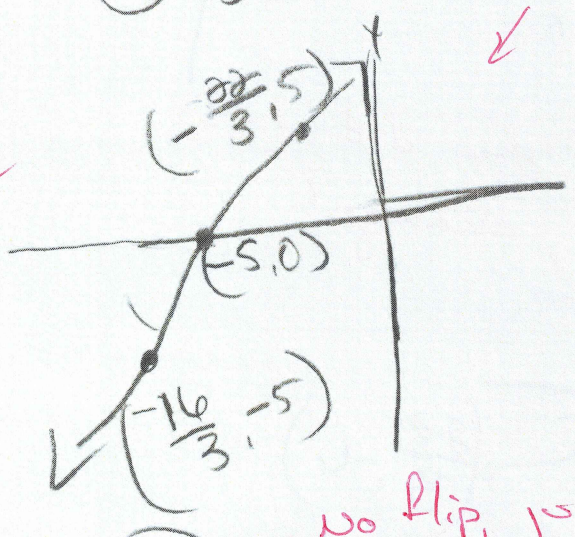


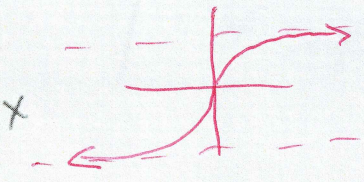
↑ Curve is unclear, make sure they curve toward horizontal

③ $5\sqrt[5]{3x}$

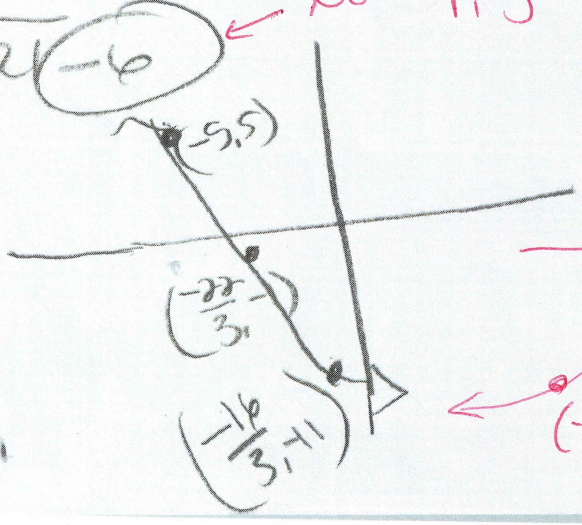


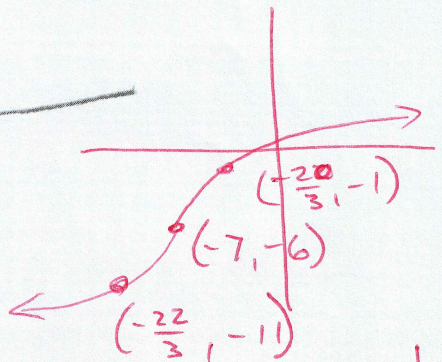
④ $5\sqrt[5]{3(x+7)}$





⑤ $5\sqrt[5]{3x+21}-6$ ← No flip, just shift

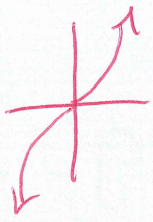




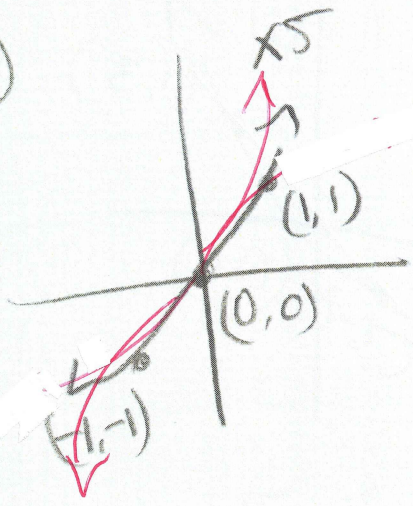
+4

Mat 121 WPH2 Cachero

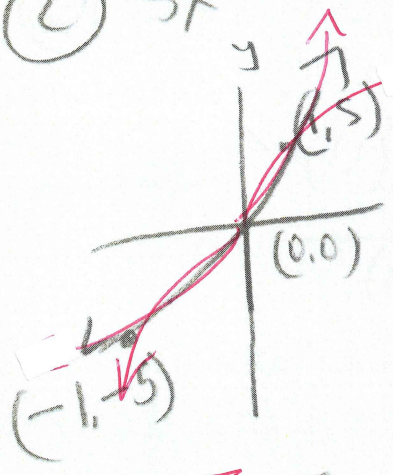
⑥ $g(x)=5(3x+21)^5-6$



① x^5

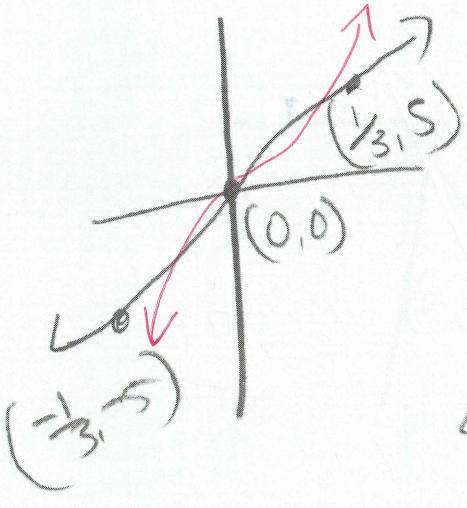


② $5x^5$

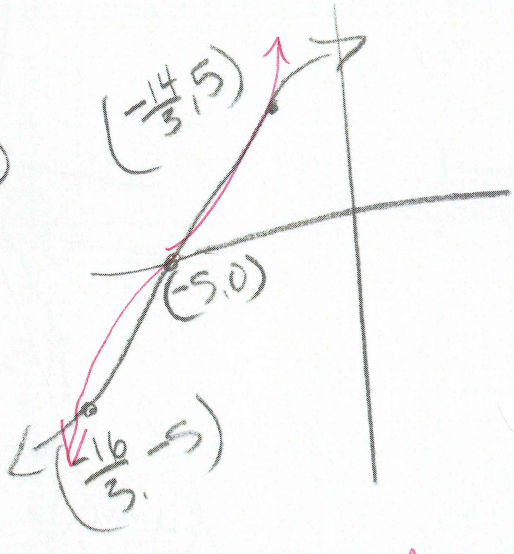


*sorry, I started making the marks the wrong way--

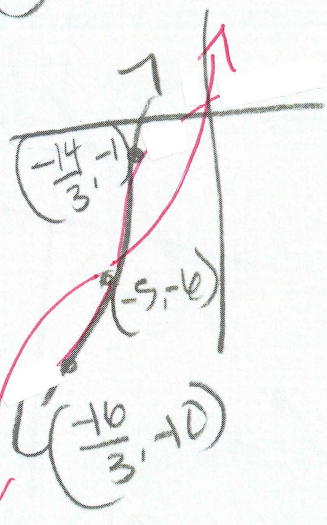
③ $5(3x)^5$



④ $5(3(x+\cancel{5}\ 7))^5$



⑤ $g(x)=5(3x+21)^5-6$



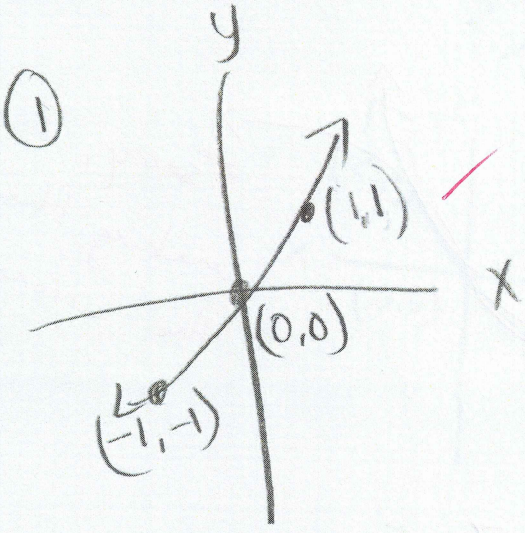
The "5" instead of a "7" threw off your final

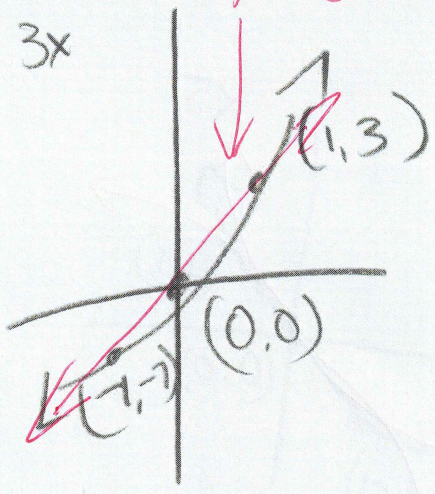
+3.5

Mat 121 WP#2 Cachero

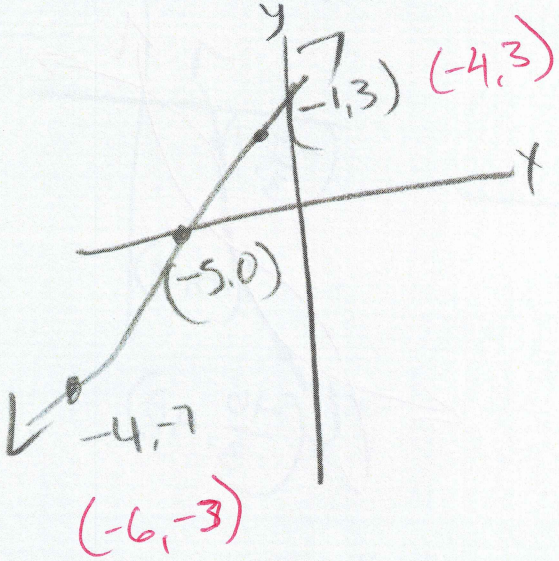
(7) $g(x) = 3(x+5) - 7$

straight line, no curve

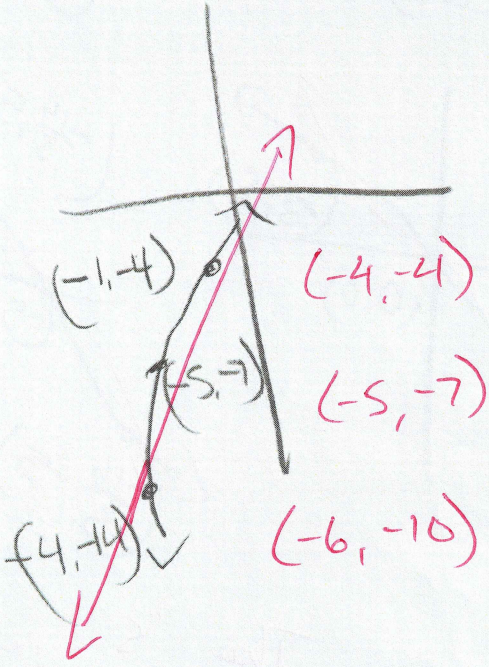
① 

② 

③ $3(x+5)$



④ $3(x+5) - 7$



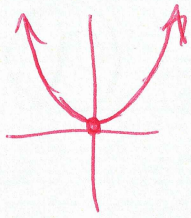
+3

Mat 121 wp #2 Cachero

(8) $g(x) = 3(x+5)^2 - 7$

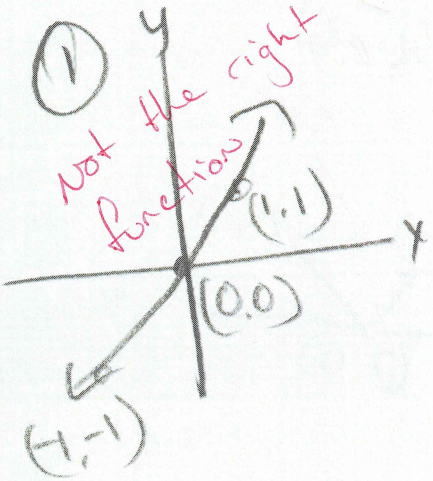
$f(x) = x^2$

Start @ x^2 ⇒

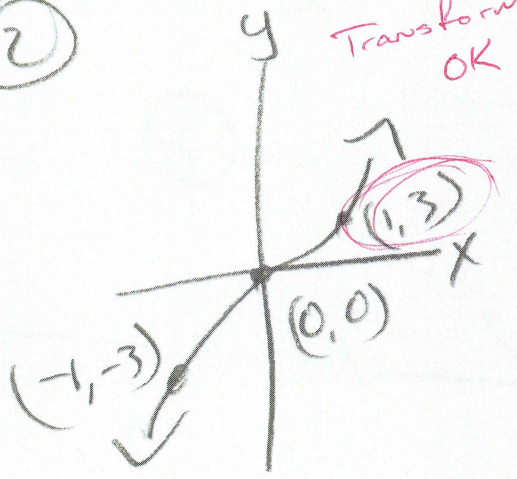


$3f(x) = 3x^2$

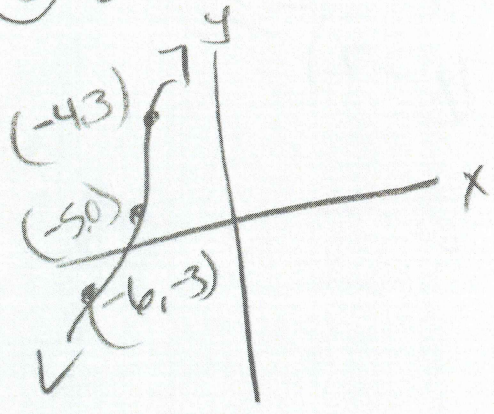
(1)



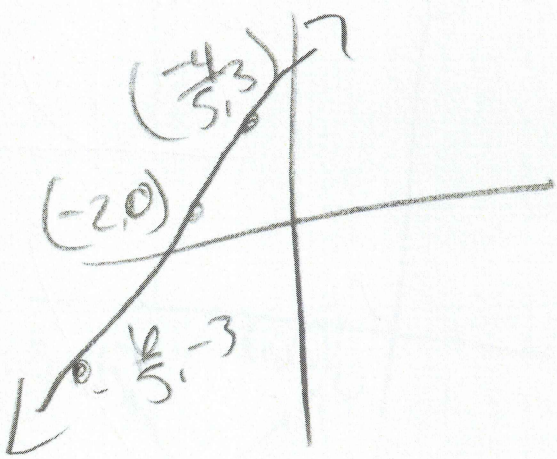
(2)



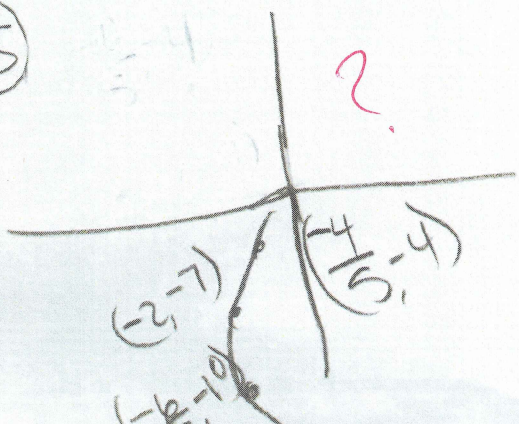
(3) $3f(x+5)$



(4) $3f(x+5) = 3(x+5)^2$



(5)



+3

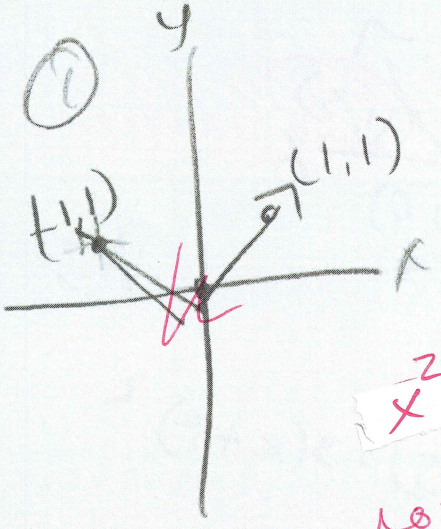
Mat 121 wp #2 Cachon

(9) $g(x) = x^2 - 4x - 7$

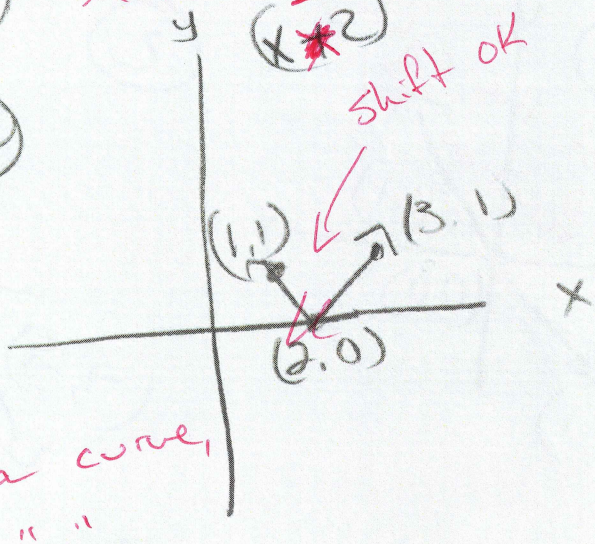
$= x^2 - 4x + 2^2 - 8 - 7$ (+4 −8 −7 = −11)

$= (x-2)^2 - 11$

(1)



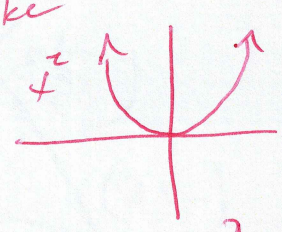
(2)



shift ok

x^2 is a curve, not a "V".

like this...



(3)

$(x-2)^2 - 11$

did the shift ok w/ "−7"

+3

Mat 121 WP#2 Cacheo

(10) $g(x) = 4x^2 + 5x + 17$

$4(x^2 - \frac{5}{4}x) + 17$ ← This doesn't work

$4(x-5)^2 + 17$

$4(x-5)^2 - 2$

factors out to...

$4(x + \frac{5}{8})^2 + \frac{247}{16}$

① y (1,1) (-1,1) (0,0)

② $4x^2$ (-1,4) (1,4) (0,0)

$g(x) = 4(x-5)^2 - 2$

③ $4(x-5)^2$ y (4,4) (6,4) x (5,0)

Parabola no "point" like a "V"

④ (4,2) (6,2) (5,-2)

+3