Bianca Granados Caudillo

MAT1340

WP # 1

Spring 2023

28/50

$y \mapsto 5y$

$x \to x - c$

$x \to \frac{1}{b}$

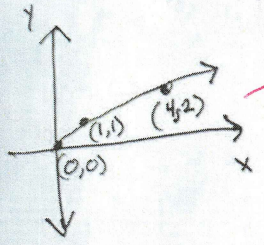
$y \to x - d$

shift right here... $x = 21$

$(x - 21)$

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

(a) $y = \sqrt{x}$

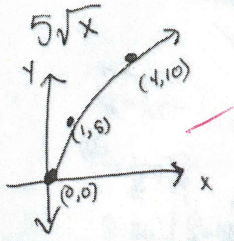


$\sqrt{0} = 0$

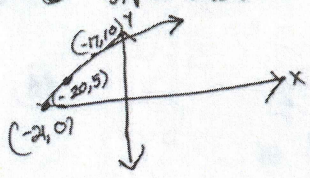
$\sqrt{1} = 1$

$\sqrt{4} = 2$

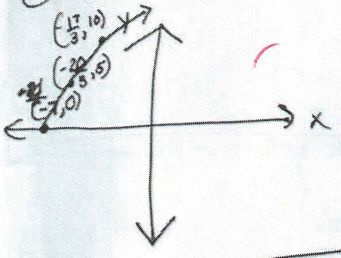
(b) $5\sqrt{x}$



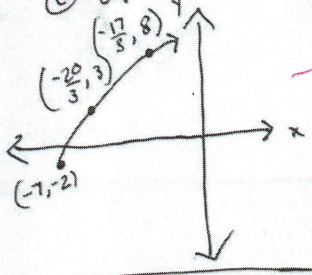
(c) $5\sqrt{x + 21}$ $x - 21$



(d) $5\sqrt{3x - 21}$



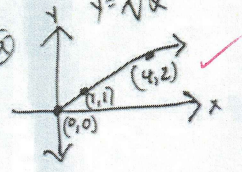
(e) $5\sqrt{3x - 21} - 2$



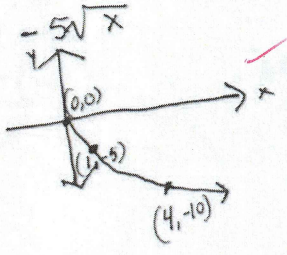
shift right +4

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

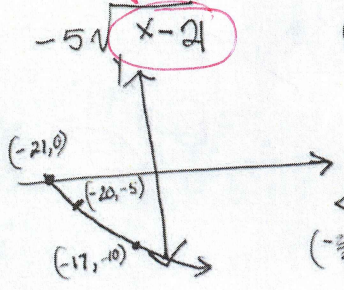
(a) $y = \sqrt{x}$



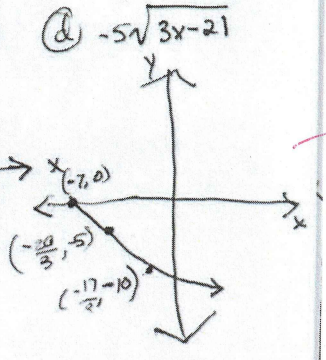
(b) $-5\sqrt{x}$



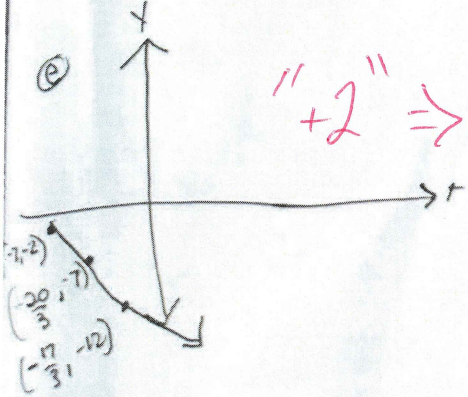
(c) $-5\sqrt{x - 21}$



(d) $-5\sqrt{3x - 21}$



(e)

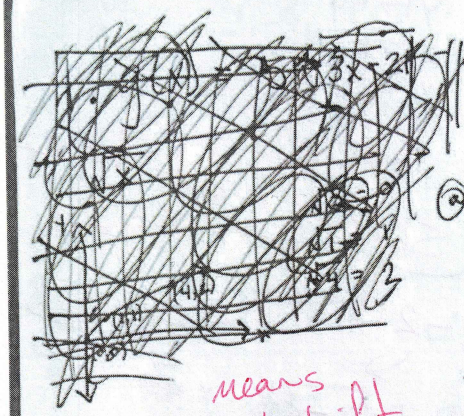


"+2" => shift up. :)

+3.5

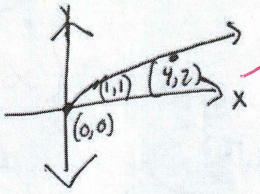
+7.5

3. $g(x) = 5\sqrt{-3x-21} - 11$

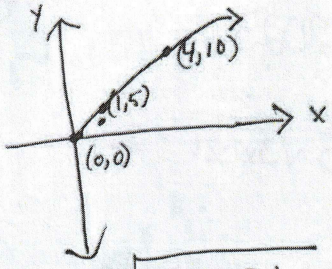


means ← shift right, but...

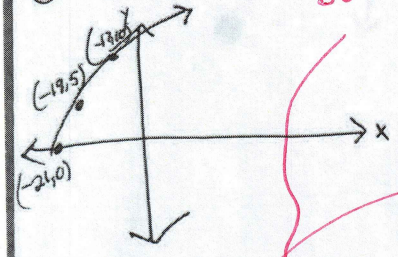
ⓐ $\sqrt{x}$



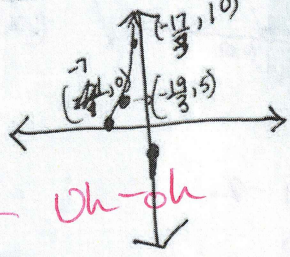
ⓑ $5\sqrt{x}$



ⓒ $5\sqrt{x-21}$

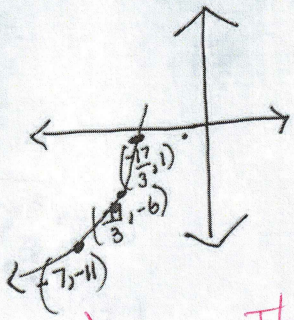


ⓓ $5\sqrt{-3x-21}$



Uh-oh

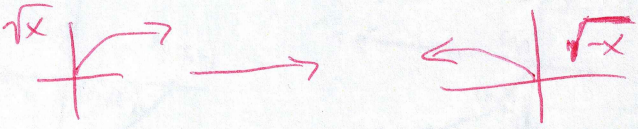
ⓔ $5\sqrt{-3x-21}$ -11 ← shift down.



$-3x-21 = -3(x+7)$ ← That is shift left.

4. ?

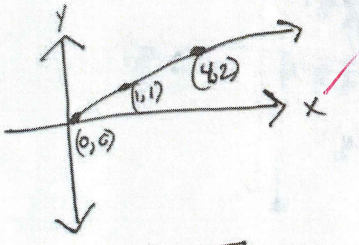
$\sqrt{-x}$ ← horizontal flip, so



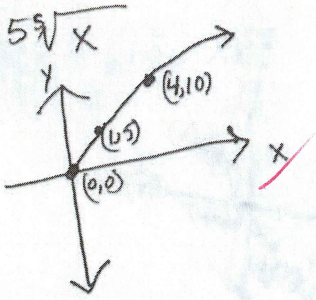
+3

5. $g(x) = 5\sqrt[5]{3x+21} - 6$

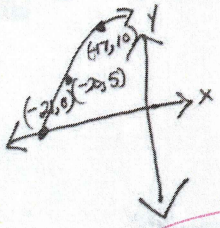
(a) $\sqrt[5]{x}$



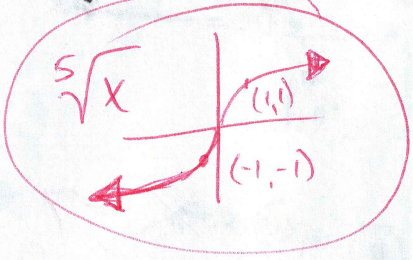
(b) $5\sqrt[5]{x}$



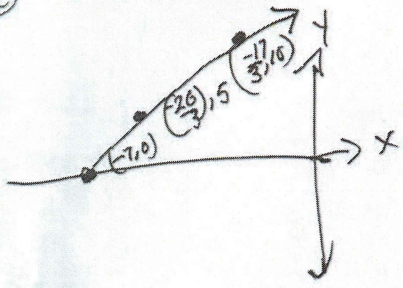
(c) $5\sqrt[5]{x+21}$ $x-21$



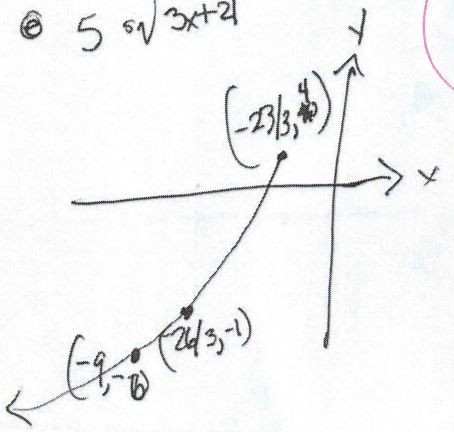
Start here:



(d) $5\sqrt[5]{3x+21}$



(e) $5\sqrt[5]{3x+21}$



+2

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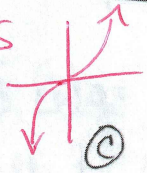
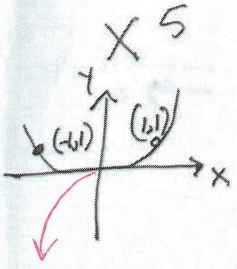
6. $g(x) = 5(3x+21)^5 - 6$

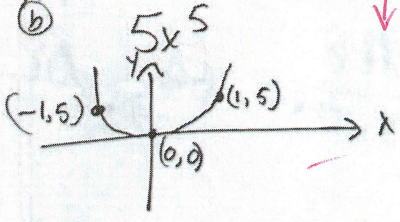
x^5



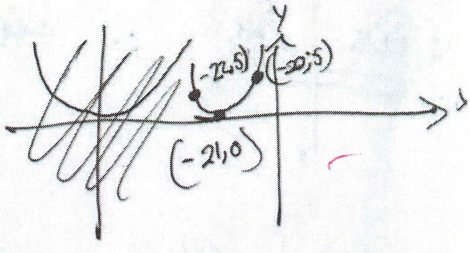
(a) x^5



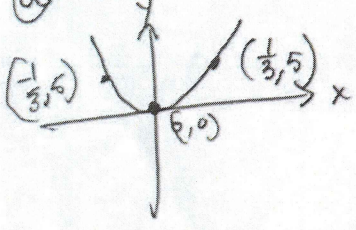
(b) $5x^5$



(c) $5(x+21)^5$ $x-21$



(d) $5(3x)^5$

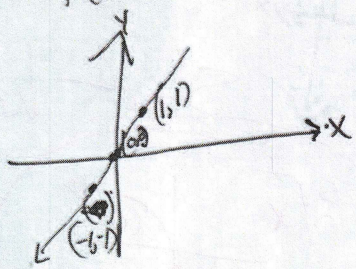


+2

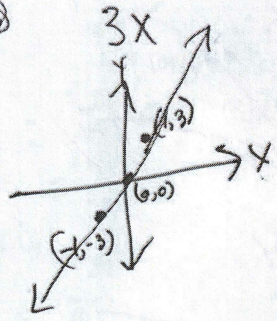
+4

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

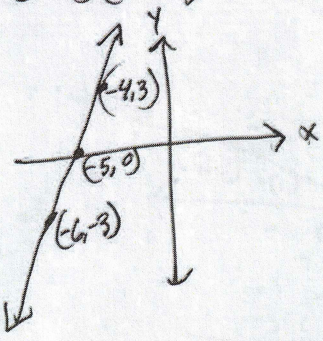
(a) $f(x) = x$



(b) $3x$

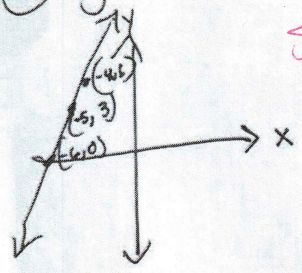


(c) $5(x+5)$ $x-5$



(d) $g(x)$ $x+5$ -7

shift down



+4.5

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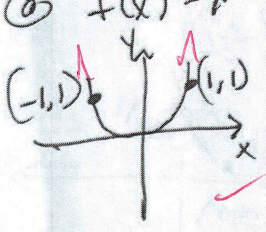
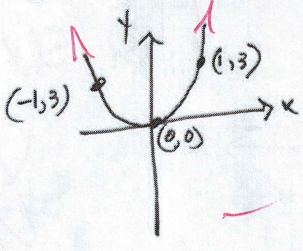
8. $g(x) = 3(x+5)^2 - 7$

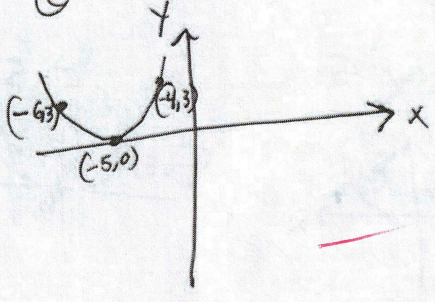
(a) $f(x) = x^2$



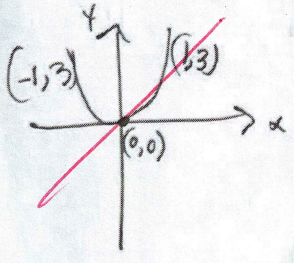
(b) $3f(x)$ $3x^2$



(c) $3(x+5)^2$



(d)



"-7" shift down

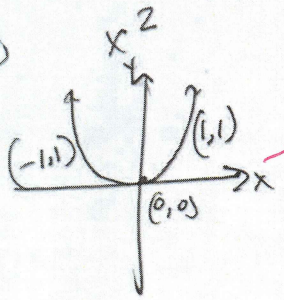
+4

+8.5

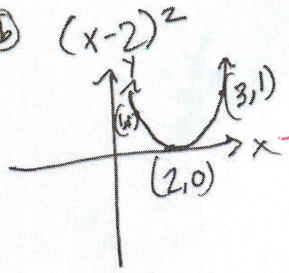
9. $g(x) = x^2 - 4x - 7$

$(x-2)^2 - 11$

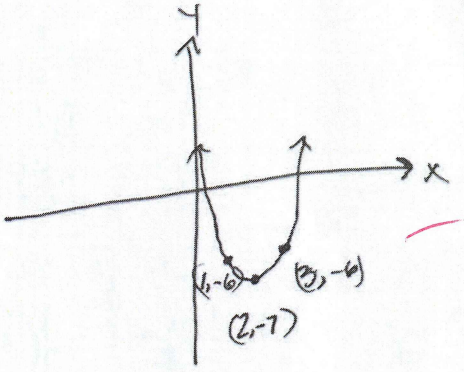
(a) x^2



(b) $(x-2)^2$



(c)



+5

10. ?

+5