2 attempts — per problem?
per test?

Formatting on Test entries.

Writing Project for Chapter 2.

Writing Project Videos - My supplementing the text

Transformations on functions:

My videos are 1.5–2 times the amount of lecture than in face-to-face.

video

Pearson

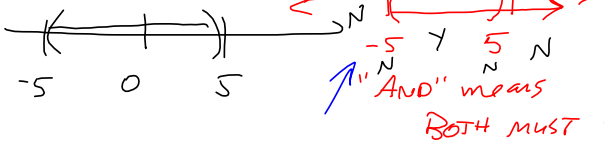
with one screen
Alt-Tab – Apps/Windows
Ctrl-Tab to flip between tabs

$|-3x+2| > 5$

$-3x+2 > 5$ $\quad -3x+2 < 5$

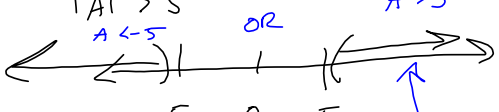
$|A| < 5$ $\quad -5 < A < 5$

$A < 5$ AND $A > -5$



"AND" means BOTH MUST BE SATISFIED.

$|A| > 5$ $\quad A < -5$ OR $A > 5$



HERE OR HERE

Intersection

Reverse inequality & change sign on RHS.

$|-3x+2| > 5$

$-3x+2 > 5$ OR $-3x+2 < -5$

$-2 = -2$

$-3x > 3$

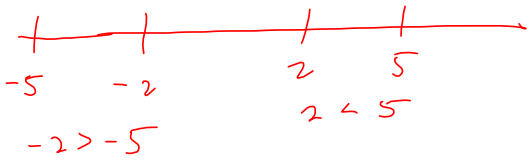
$-3x > 3$

$\frac{-3x}{-3} < \frac{3}{-3}$ optional

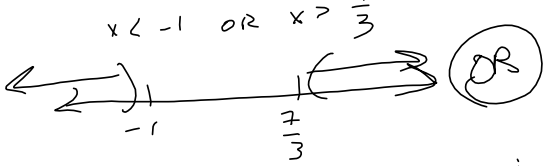
$x < \frac{3}{-3} = -1$

$-3x < -7$

$x > \frac{-7}{-3} = \frac{7}{3}$



$x < -1$ OR $x > \frac{7}{3}$



$= (-\infty, -1) \cup (\frac{7}{3}, \infty)$

- infinity } for ∞ symbol?
- Infinity

Transformations on Basic Functions

$af(bx+c)+d$

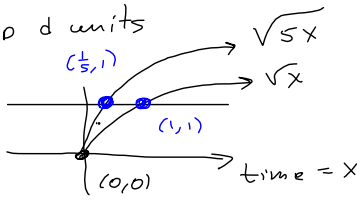
$3\sqrt{2x-7}+11$

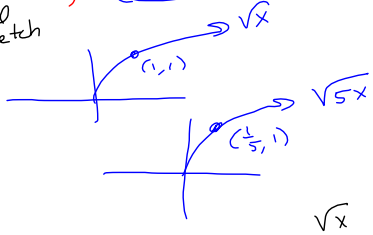
$\sqrt{x}$ Left c units

$af(bx+c)+d$ up d units

$y \mapsto ay$ vertical stretch

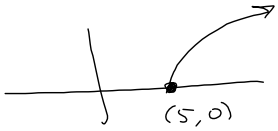
$x \mapsto \frac{1}{b}x$



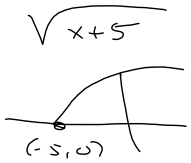


Delay

$\sqrt{x} \rightarrow \sqrt{x-5}$



$\sqrt{5-5}=0$



METHOD 1

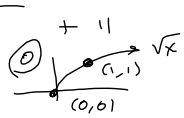
0. $f(x)$
1. $af(x)$ $y \mapsto ay$
2. $af(x+c)$ $x \mapsto x-c$
3. $af(bx+c)$ $x \mapsto \frac{1}{b}x$
4. $af(bx+c)+d$ $y \mapsto y+d$

METHOD 2

0. $f(x)$
1. $af(x)$
2. $af(bx)$
3. $af(b(x-\frac{c}{b}))$
4. $af(b(x-\frac{c}{b}))+d$

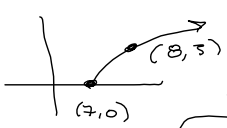
$3\sqrt{2(x-\frac{7}{2})}+11$ Better for this / future.

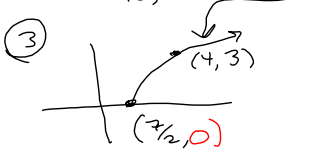
$3\sqrt{2x-7}+11$



0. $f(x)=\sqrt{x}$
1. $3f(x)=3\sqrt{x}$

2. $3f(x-7)$



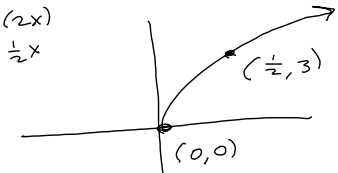


3. $3f(2x-7)$

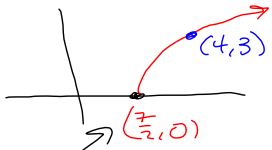
METHOD 2

1. SAME

2. $3f(2x)$ $x \mapsto \frac{1}{2}x$

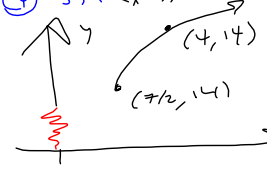


3. $3f(2(x-\frac{7}{2}))$
$=3\sqrt{2(x-\frac{7}{2})}$
$x \mapsto x+\frac{7}{2}$



$\frac{1}{2}+\frac{7}{2}=\frac{8}{2}=4$

4. $3f(2x-7)+11$



SAME 4