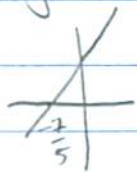


# Function language w/ Radicals

①  $y = 5x + 7$  A) R B) R C)  $(-7/5, 0)$  D)  $(0, 7)$  E) R F)  $\emptyset$  G) None



H) Yes I) Yes J) Yes K)  $x \rightarrow \infty, y \rightarrow \infty$  L)  $x \rightarrow -\infty, y \rightarrow -\infty$   
 M) None N) None O) Yes P) None Q) A-Vertical stretch 5 B-None C-None D-up 7 R)  $(-7/5, \infty), [-7/5, \infty), (-\infty, -7/5), (-\infty, -7/5]$

②  $y = 2(5x - 20)^2 - 8$  A) R B)  $[-8, \infty)$  C)  $(22/5, 0)$   $(18/5, 0)$  D)  $(0, 792)$

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

$y = 2(5(x-4))^2 - 8$  E)  $(4, \infty)$  F)  $(-\infty, 4)$  G) Below H) No

$2 = |5(x-4)|$

I) Yes J) No K)  $x \rightarrow \infty, y \rightarrow \infty$  L)  $x \rightarrow -\infty, y \rightarrow \infty$

$2 = 5(x-4)$

M) None N) of  $-8$  @  $x = 4$  O) Yes

$2/5 = x - 4$

P) C( $\uparrow$   $(-\infty, \infty)$ ), C( $\downarrow$  never Q)

$-2 = 5(x-4)$

A- vertical stretch of 2 B- horizontal

$-2/5 = x - 4$

Shrink  $1/5$ , C- Right 4 D- Down 8

$18/5 = x$

R)  $y > 0: (-\infty, 18/5] \cup (22/5, \infty)$   $y \geq 0: (-\infty, 18/5] \cup [22/5, \infty)$

$y < 0: (18/5, 22/5)$   $y \leq [18/5, 22/5]$

$y = 2(-20)^2 - 8$

$y = 2(400) - 8$

$800 - 8$

$792$

③  $y = -(x-4)^3 + 5$  A) R B) R C)  $(\sqrt[3]{5+4}, 0)$  D)  $(0, -59)$  E)  $\emptyset$

$5 = (x-4)^3$

F)  $(-\infty, \infty)$  G) None H) Yes I) Yes

$\sqrt[3]{5+4} = x$

J) Yes K)  $x \rightarrow \infty, y \rightarrow -\infty$  L)  $x \rightarrow -\infty, y \rightarrow \infty$

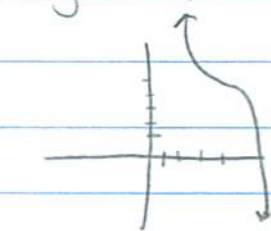
M) None N) None O) Yes P) C( $\uparrow$   $(-\infty, 4)$ )

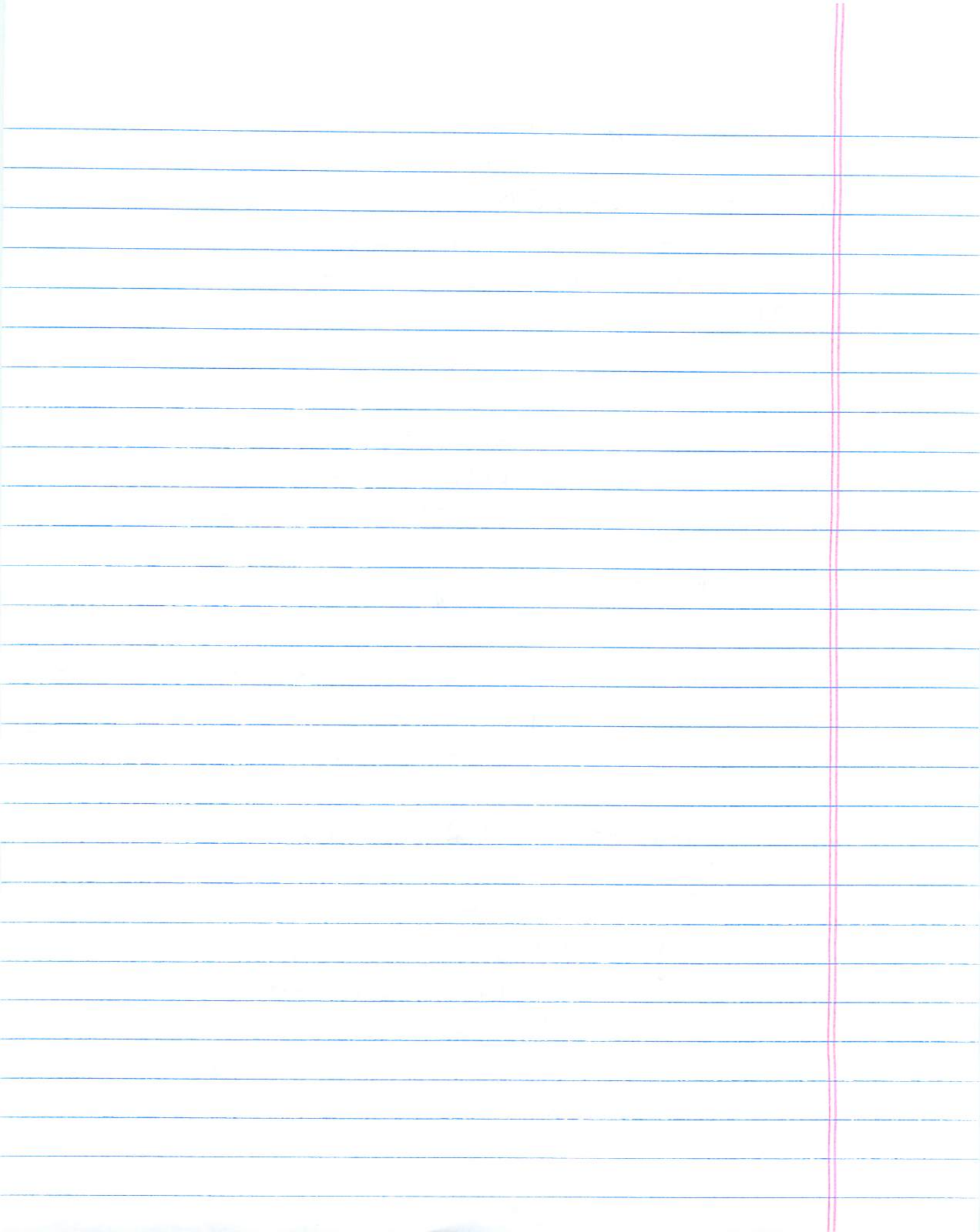
C( $\downarrow$   $(4, \infty)$ ) Q) A-Vertical reflection

B-None C- Right 4 D-UP 5 R)  $y > 0$

$(-\infty, \sqrt[3]{5+4})$   $y \geq 0: (-\infty, \sqrt[3]{5+4}]$   $y < 0$

$(\sqrt[3]{5+4}, \infty)$   $y \leq 0: [\sqrt[3]{5+4}, \infty)$







$$x-1 \geq 0$$

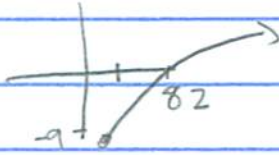
$$x \geq 1$$

$$\frac{3(04)}{512}$$

4)  $y = \sqrt{x-1} - 9$  A)  $x \geq 1$  B)  $[-9, \infty)$  C)  $(82, 0)$  D) None E)  $(1, \infty)$

$$81 = x-1$$

$$82 = x$$



F)  $\emptyset$  G) Below H) Yes I) Yes J) Yes K)  $x \rightarrow \infty y \rightarrow \infty$

L)  $x \rightarrow -\infty y \rightarrow DNE$  M) None N) <sup>Local & Abs</sup> of  $-9$  @  $x=1$

O) Yes P)  $\cup$   $\uparrow$  never  $\cup$   $\downarrow$   $(1, \infty)$  Q) A-None B-None

C-Right I D-down R)  $y > 0$   $(82, \infty)$

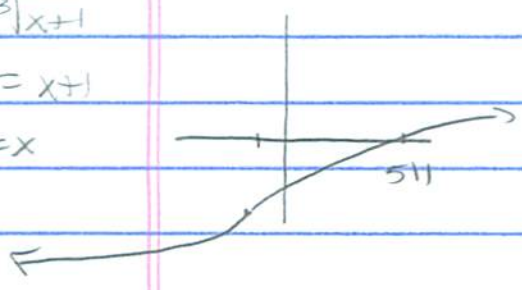
$y \geq 0$   $[82, \infty)$   $y < 0$   $[1, 82)$   $y \leq 0$   $[1, 82]$

5)  $y = 2\sqrt[3]{x+1} - 16$  A) R B) R C)  $(511, 0)$  D)  $(0, -14)$  E) R F) None

$$8 = \sqrt[3]{x+1}$$

$$512 = x+1$$

$$511 = x$$



G) None H) Yes I) Yes J) Yes K)  $x \rightarrow \infty y \rightarrow \infty$

L)  $x \rightarrow \infty y \rightarrow -\infty$  M) None N) None O) YES

P)  $\cup$   $(-\infty, -1)$   $\cup$   $(-1, \infty)$  Q) A-vertical stretch

of 2 B-None C-Left one D-Down 1/6

R)  $y > 0$   $(511, \infty)$   $y \geq 0$   $[511, \infty)$   $y < 0$   $(-\infty, 511)$

$y \leq 0$   $(-\infty, 511]$

6)  $y = -\sqrt{3-2x} - 1$  A)  $x \leq 3/2$  B)  $y \leq -1$  C) None D)  $(0, -\sqrt{3}-1)$

$$y = -\sqrt{3} - 1$$

$$y = -\sqrt{2(x-3/2)} - 1$$

E)  $(-\infty, 3/2)$  F) Never G) Above H) Yes I) Yes

J) Yes K)  $x \rightarrow \infty y \rightarrow DNE$  L)  $x \rightarrow -\infty y \rightarrow -\infty$

M) <sup>Abs & local</sup> of  $-1$  @  $x=3/2$  N) None O) Yes P)  $\cup$   $(-\infty, 3/2)$

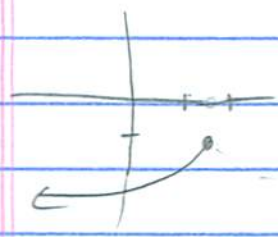
$\cup$   $\downarrow$  Never Q) A-vertical reflection

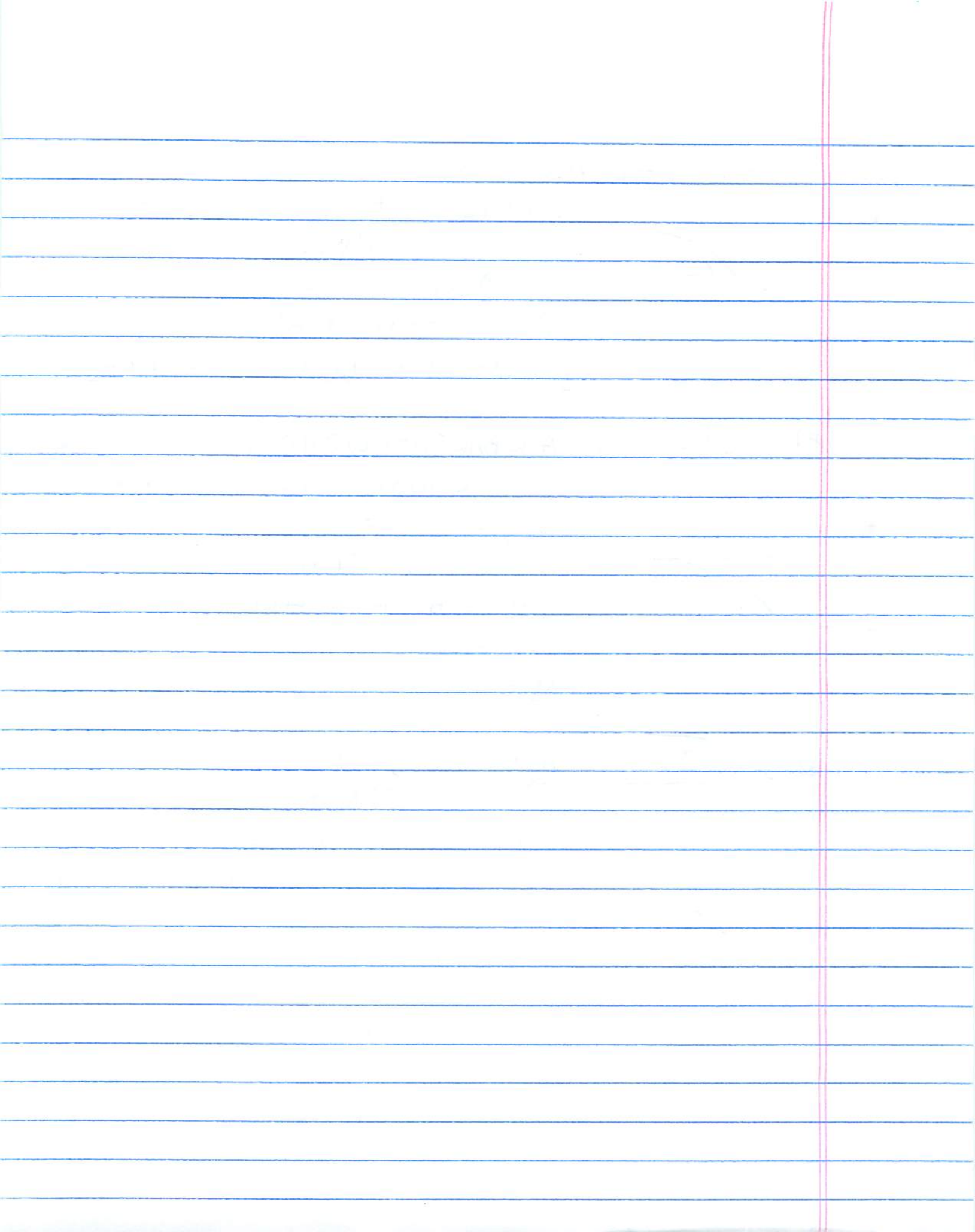
B-horizontal stretch 1/2 & horizontal reflection

C-Right 3/2 D-Down 1

R)  $y > 0$   $\emptyset$ ,  $y \geq 0$   $\emptyset$   $y < 0$   $(-\infty, 3/2)$

$y \leq 0$   $(-\infty, 3/2]$





7)  $y = \frac{1}{3} \sqrt[3]{2(x-2)} + 1$  A) R B) R C)  $(-\frac{23}{2}, 0)$  D)  $(0, \frac{1}{3} \sqrt[3]{-4} + 1)$

$-3 = \sqrt[3]{2(x-2)}$

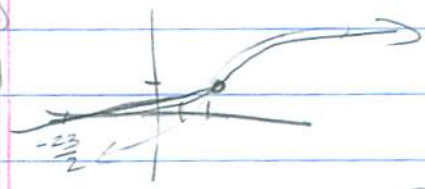
$-27 = 2(x-2)$

$-\frac{27}{2} + 2 = x$

$-\frac{23}{2} = x$

$y = \frac{1}{3} \sqrt[3]{2(-2)} + 1$

$\frac{1}{3} = \sqrt[3]{-4} + 1$



E) R F) Never G) None H) Yes I) Yes

J) YES K)  $x \rightarrow \infty y \rightarrow \infty$  L)  $x \rightarrow -\infty y \rightarrow -\infty$

M) None N) None O) Yes P)  $(-\infty, 2)$   $(-\infty, 2)$   $(-\infty, 2)$

Q. A- Vertical shrink  $1/3$  B- Horizontal Shrink  $1/2$  (- Right 2 D-up)

R)  $y > 0$   $(-\frac{23}{2}, \infty)$

$y \geq 0$   $[-\frac{23}{2}, \infty)$

$y < 0$   $(-\infty, -\frac{23}{2})$

$y \leq (-\infty, -\frac{23}{2}]$



