

ANSWERS -

Exam Review: Extra Practice

B 1. 25 to join (paid once, initially) ← y-intercept
 \$2.50 for each video rented (paid repeatedly) ← slope
 amount per video

Total Cost → $f(v) = 2.50x + 25$ ← initial cost to join

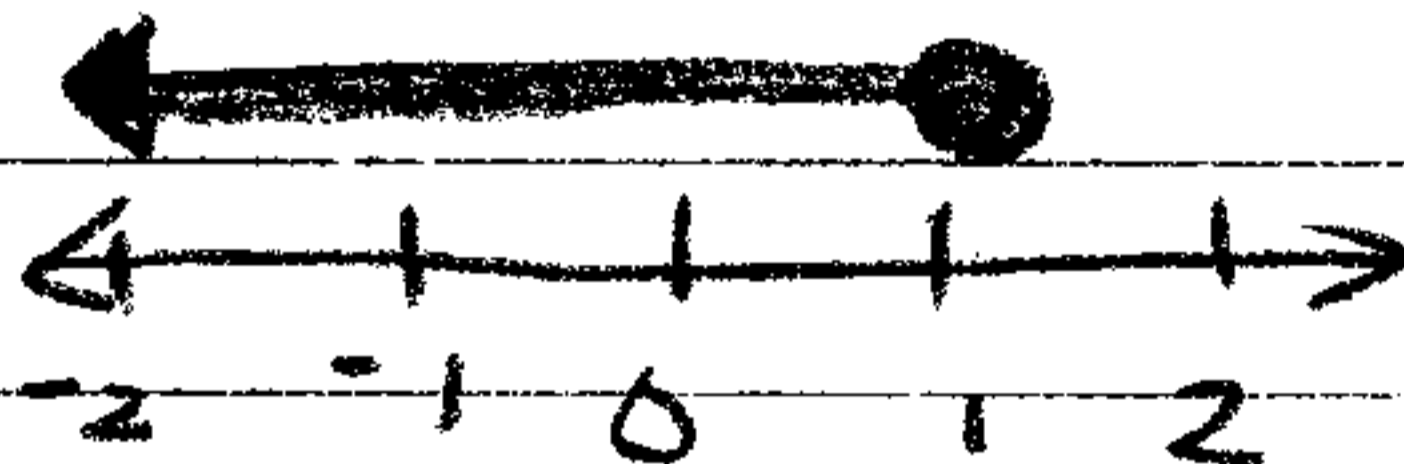
Because the total cost depends on the number of videos rented, the total cost is the dependent variable, and number of videos rented is the independent var.

D 2. $-2c - 5 \geq -7$
 $+5 \quad +5$

$$-2c \geq -2$$

$$\frac{-2c}{-2} \leq \frac{-2}{-2}$$

$$c \leq 1$$



C 3. $-\frac{x}{8} - \frac{5}{4} = -\frac{3x}{8}$

$$\frac{8}{1} \left(\frac{-x}{8} + \frac{-5}{4} = \frac{-3x}{8} \right)$$

$$\frac{-8x}{8} + \frac{-40}{4} = \frac{-24x}{8}$$

$$-x - 10 = -3x$$

$$+x \quad +x$$

$$-10 = -2x$$

$$\frac{-10}{-2} = \frac{-2x}{-2}$$

$$x = 5$$

A 7. $F = \frac{9}{5}C + 32 \rightarrow$ Solve for C

-32

-32

subtract 32

$$F - 32 = \frac{9}{5}C$$

$$\frac{5}{9} (F - 32) = \left(\frac{9}{5} C \right) \frac{5}{9}$$

$$\frac{5}{9} (F - 32) = \frac{5}{5} C$$

$$\frac{5}{9} (F - 32) = C \rightarrow \text{or} \rightarrow C = \frac{5}{9} (F - 32)$$

$$C = \frac{5F - 160}{9}$$

8. $S = 2C - \frac{W}{4}$ ← "wrong"
 ↑
 "correct"

69 ← a. $S_{\text{Sara}} = 2(36) - \frac{12}{4}$

72 - 3

69

42 ← c. $S_{\text{Daria}} = 2C - \frac{W}{4}$

20 ← b. $S_{\text{Francesca}} = 2C - \frac{W}{4}$

$$53 = 2(29) - \frac{W}{4}$$

$$53 = 58 - \frac{W}{4}$$

$$-58 \quad -58$$

$$-5 = \frac{-W}{4}$$

$$4(-5) = \left(\frac{-W}{4} \right) 4$$

$$-20 = -W$$

$$\frac{-20}{-1} = \frac{-W}{-1}$$

W = 20

$$80 = 2C - \frac{8}{2}$$

$$80 = 2C - 4$$

$$+4 \quad +4$$

$$\frac{84}{2} = \frac{2C}{2}$$

$$42 = C$$

$$C = 42$$

(skipped problems must not count either)

9. a.

| w | T(w) |
|---|------------------|
| 0 | $50 + 8(0) = 50$ |
| 2 | $50 + 8(2) = 66$ |
| 4 | 82 |

$$T(w) = 50 + 8w$$

$$82 = 50 + 8w$$

$$\begin{array}{r} -50 \\ \hline 32 = 8w \\ \hline 4 = w \end{array}$$

b. Because the total tokens depends on the number of games one, the total tokens is the dependent variable, and the number of games won is the independent var.

b. Independent: # games won
 Dependent: Total # of tokens

c. Discrete; you can't get fractional tokens.

d. $T(3) = 74$ means when you win 3 games your total # of tokens = 74

$$\left[\begin{array}{l} 50 + 8(3) \\ 50 + 24 = 74 \end{array} \right]$$

e. $\{0, 1, 2, 3, 4, 5, 6, 7\}$

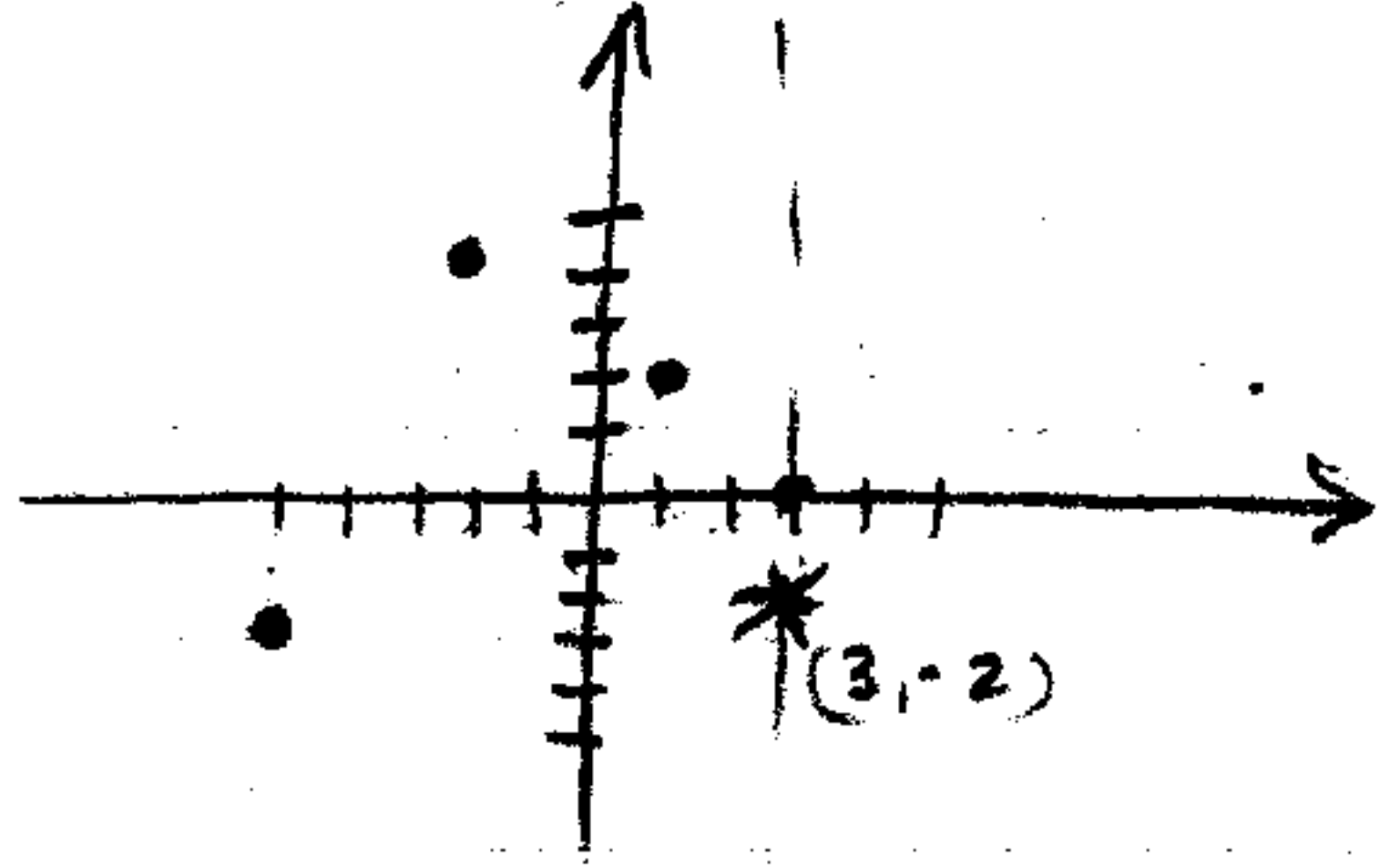
You have to win 7 games to have 100 tokens. Less than 7 are also possible.

$$\begin{array}{r} 100 = 8x + 50 \\ -50 \qquad \qquad -50 \\ \hline 50 = 8x \\ \hline 6.5 = x \end{array}$$

5 f. $T(w) = 90$
 $w = 5$

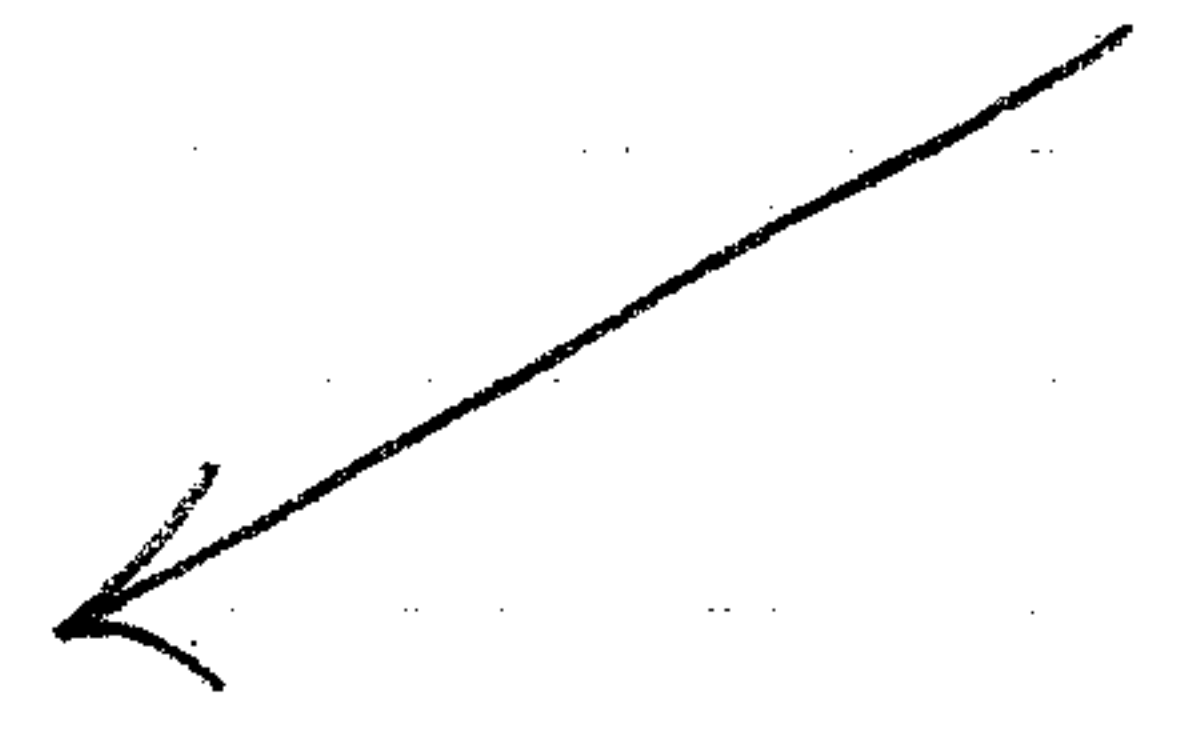
$$\begin{array}{r} 90 = 8w + 50 \\ -50 \qquad \qquad -50 \\ \hline \end{array}$$

C 10.



Graphed points are these

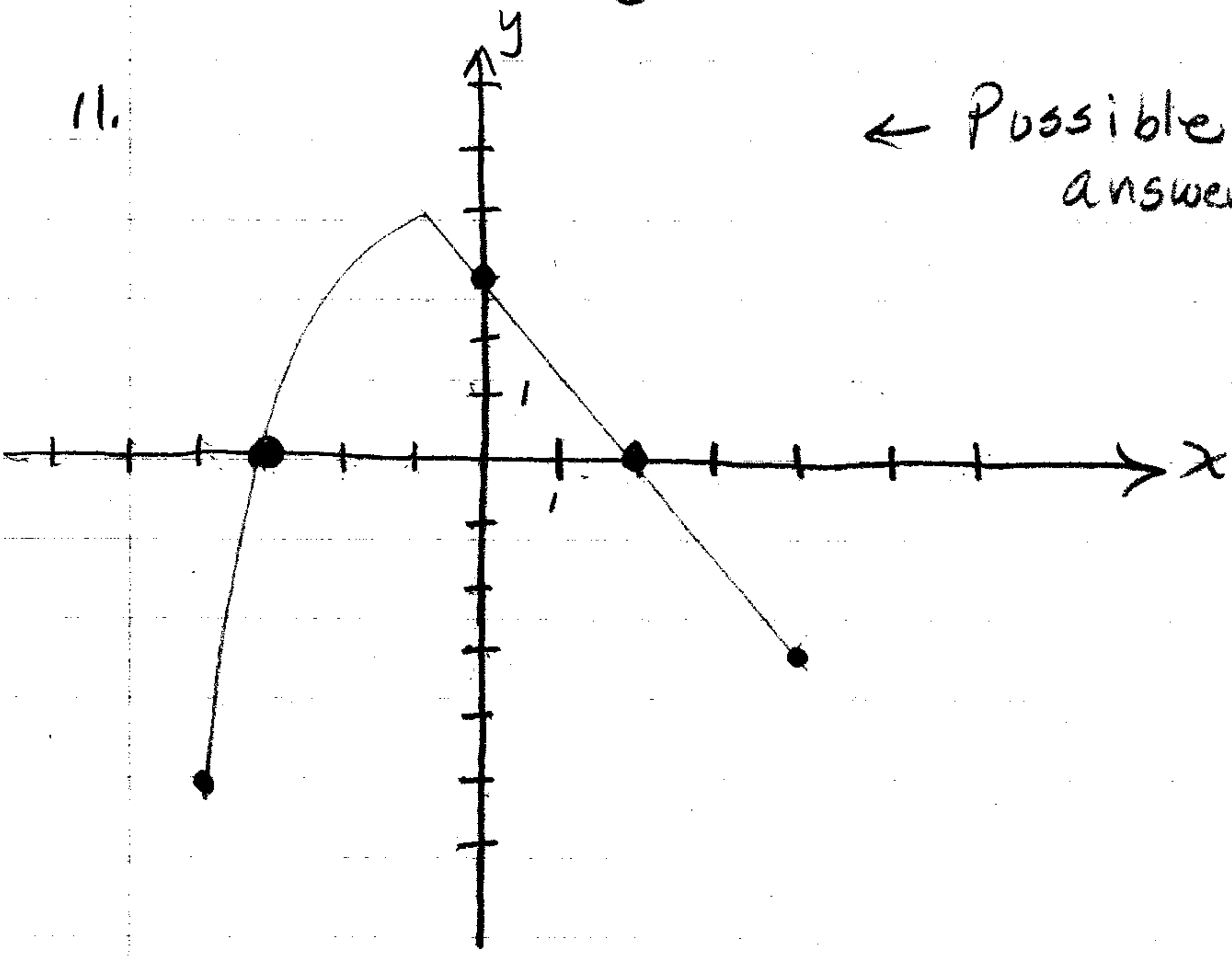
- $(-5, -3)$
- $(-2, 4)$
- $(1, 2)$
- $(3, 0)$



Adding $\ast (3, -2)$ would cause the same input: 3 to have 2 different outputs: 0 and -2.

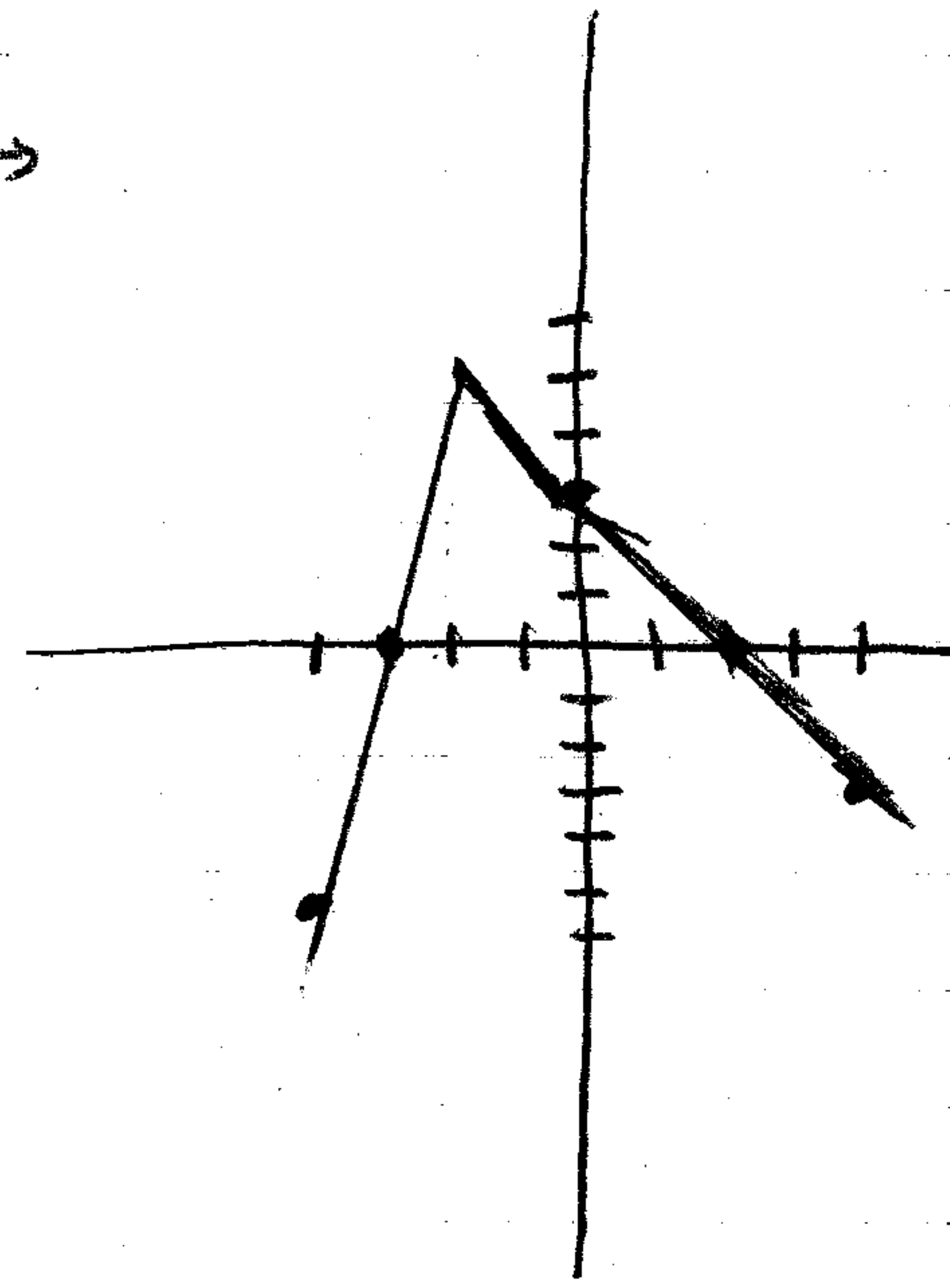
(And the graph would fail the vertical line test)

11.



← Possible →
answers

or



12. a) 3, 6, 12, 24, 48

b) Explicit, because you go from input to output in one step (You don't have to go through each number to get the next number).

$$a_{30} = 3 \cdot 2^{29}$$

Perimeter

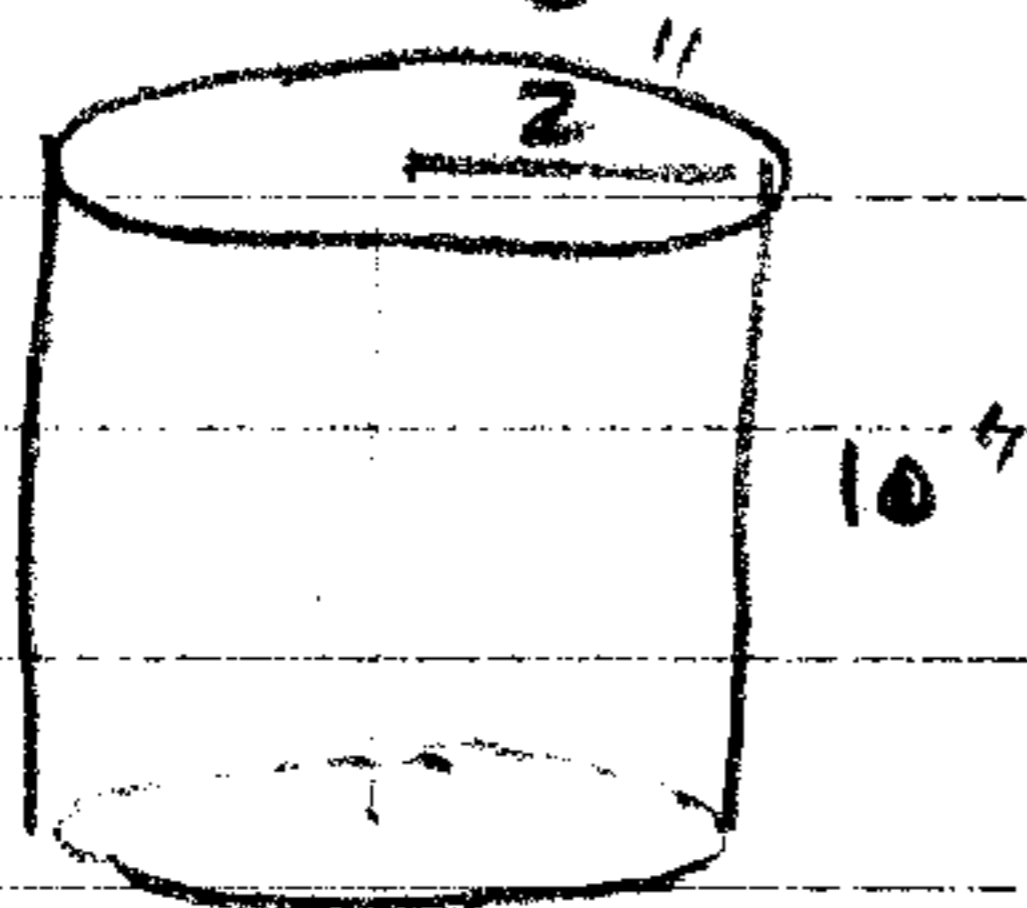
$$14x + 2 \quad (13)$$

$$\underline{3x} + \underline{2} + \underline{6x} + \underline{5x}$$

$$14x + 2$$

The NEW one is about 125.6 cubic inches more

original:



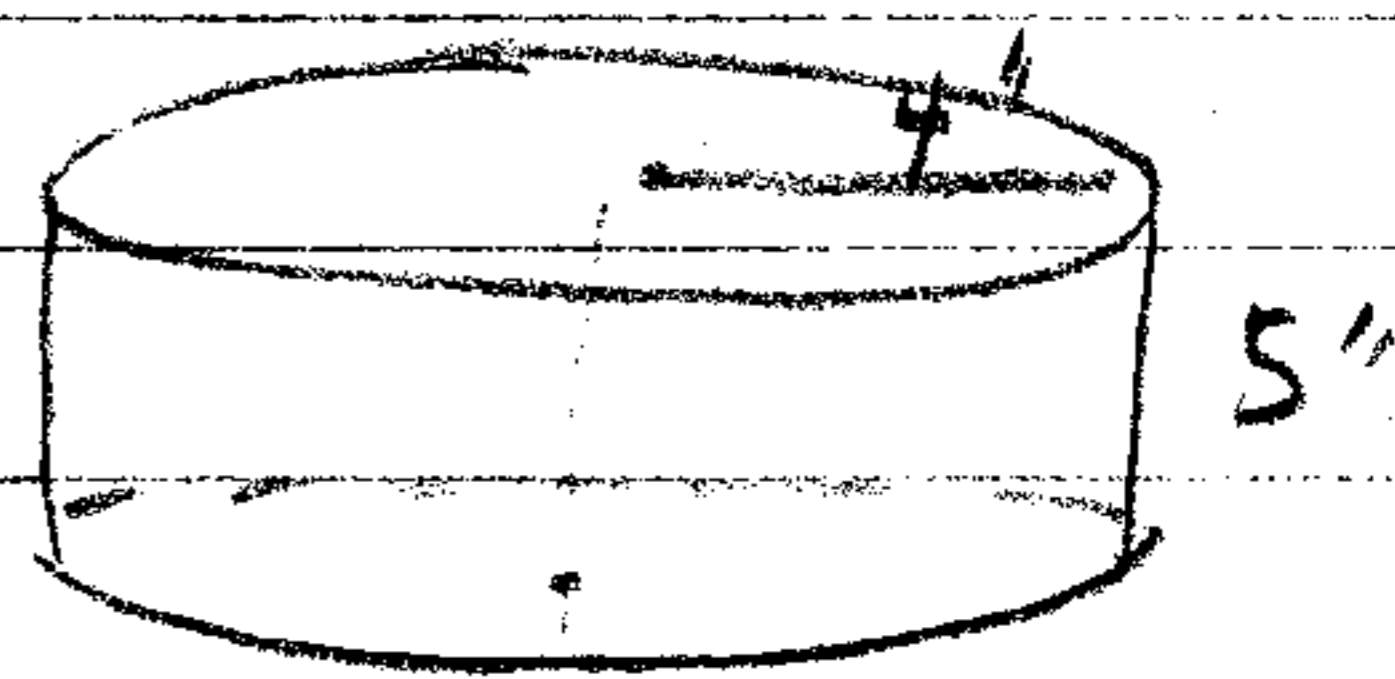
V cylinder

formula:

$$V = \pi r^2 h$$

or $V = Bh$

new:



$$V = \pi \cdot (4)^2 \cdot 5$$

$$= \pi 16 \cdot 5$$

$$V = 80\pi$$

$$V = \pi \cdot (2)^2 \cdot (10)$$

$$= \pi 4 \cdot 10$$

$$V = 40\pi$$

New one would have larger volume

$$\begin{array}{r} 3.14 \\ \times 40 \\ \hline 125.60 \end{array}$$

$$40\pi$$

125.6 cubic inches more

B 15.

$$3(x + 5) = 2x + 35$$

$$3x + 15 = 2x + 35$$

$$-2x \quad -2x$$

$$x + 15 = 35$$

$$-15 \quad -15$$

$$(x = 20)$$