

# Pick Up the Warm Up

only do #3 on the back  
for now.

[ we'll do the front  
together ]

③

Solve the system algebraically.  
[ Then later, verify graphically ]

$$2x + y = 12 \rightarrow y = 12 - 2x$$

$$xy = 16$$

$$2\left(\frac{16}{y}\right) + y = 12$$

$$x = \frac{16}{y}$$

$$x(12 - 2x) = 16$$

$$12x - 2x^2 = 16$$

$$0 = 2x^2 - 12x + 16$$

③

Solve the system algebraically.  
[Then later, verify graphically]

$$2x + y = 12$$

$$xy = 16$$

↓

$$y = \frac{16}{x}$$

$$2x + \frac{16}{x} = 12$$

multiply all  
terms by  $x$

$$2x^2 + 16 = 12x$$

③

Solve the system algebraically.  
[Then later, verify graphically]

$$2x + y = 12$$

$$xy = 16$$

↓

$$y = \frac{16}{x}$$

$$2x + \frac{16}{x} = 12$$

multiply all  
terms by  $x$

$$2x^2 + 16 = 12x$$

$$2x^2 - 12x + 16 = 0$$

$$2[x^2 - 6x + 8] = 0$$

divide by 2

$$x^2 - 6x + 8 = 0$$

$$(x-4)(x-2) = 0$$

$$x=4 \quad x=2$$

↓

$$y = \frac{16}{x}$$

$$y = \frac{16}{4} = 4$$

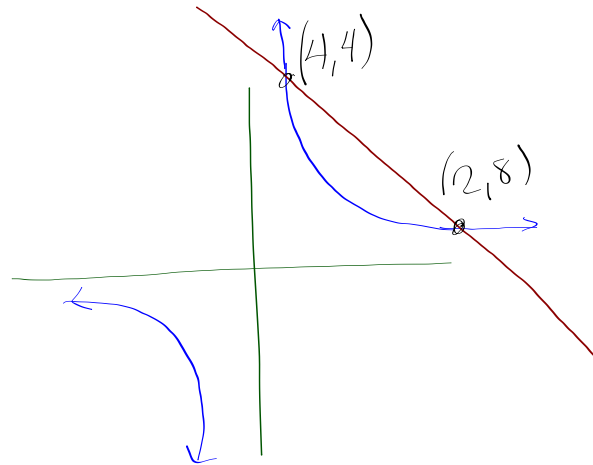
$$(4, 4)$$

$$y = \frac{16}{x}$$

$$= \frac{16}{2} = 8$$

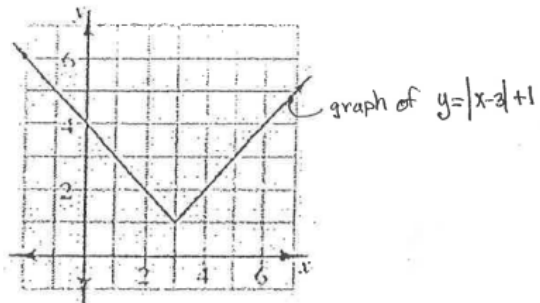
$$(2, 8)$$

Verify graphically



①

Examine the graph of  $f(x) = |x - 3| + 1$  at right. Use the graph to find the values listed below.



a.  $f(3) =$

b.  $f(0) =$

c.  $f(4) =$

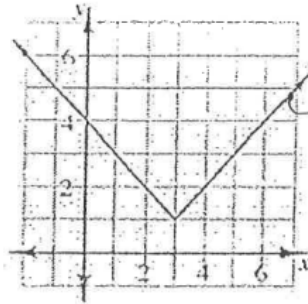
d.  $f(-1) =$

← Use only the graph to answer these questions

look at the y-value on the graph for each input (x) given.

①

Examine the graph of  $f(x) = |x-3|+1$  at right. Use the graph to find the values listed below.



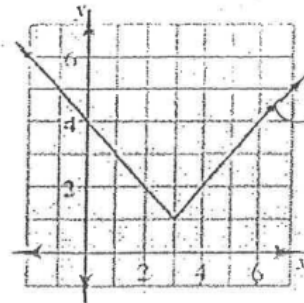
graph of  $y = |x-3|+1$

- a.  $f(3) = 1$
- b.  $f(0) = 4$
- c.  $f(4) = 2$
- d.  $f(-1) = 5$

Use only the graph to answer these questions

②

Use the graph of  $f(x) = |x-3|+1$  to solve the equations and inequalities below.



graph of  $y = |x-3|+1$

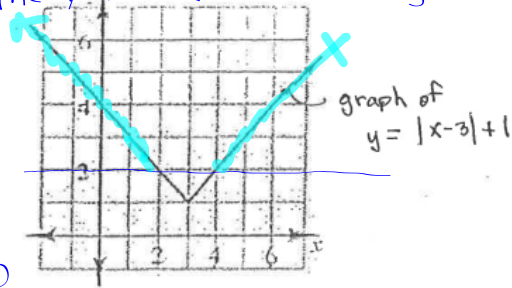
- a.  $|x-3|+1 = 1$
- b.  $|x-3|+1 \leq 4$
- c.  $|x-3|+1 = 3$
- d.  $|x-3|+1 > 2$

Use only the graph !!!

Look at the graph and find the x-value(s) that correspond to the y-value on the right side.

2

Use the graph of  $f(x) = |x-3|+1$  to solve the equations and inequalities below.



a.  $|x-3|+1=1$   $x=3$

b.  $|x-3|+1 \leq 4$   $1 \leq x \leq 6$

c.  $|x-3|+1=3$   $x=1$   $x=5$

d.  $|x-3|+1 > 2$   $x < 2$  or  $x > 4$

↑ Use only the graph !!!

## ANSWERS TO HW

(48) cost of choc. truffles \$ 0.75  
cost of caramel turtles \$ 0.25

(49) (a) For the first 6 years job A pays better  
starting the 7th year, Job B pays more.

(b) many answers possible  
If JOB had a starting salary of \$ 52,000  
it will always be better

See the "Solving by Graphing"  
LCQ from  
FRI Feb 22 (before  
the snow days)

Assignment :

4... 52, 53ad, 68, 69ac

