

H.12 - Review for Test 2 on Functions

Determine whether each data set could represent a linear function.

1. 

x	9	7	5	3
f(x)	2	5	10	15

+2      +5      +5

NO

2. 

x	0.5	1	1.5	2
f(x)	9	6	3	0

-3      -3      -3

YES

3. A child's cough medicine has a dosage table on the package.

Medicine Dosage	
Child's Weight (kg)	Dosage (mL)
10	6.0
16	7.5
28	10.5
30	11.0

PL

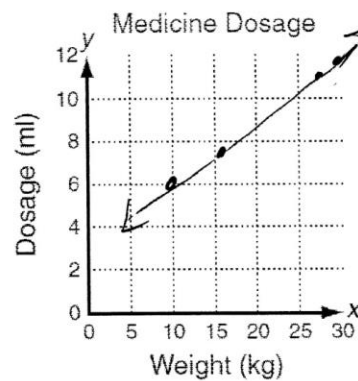
+1.5

a. Express the dosage in milliliters as a function of the child's weight in kilograms.

$D = \frac{1}{4}w + 3.5$

Graph the function.

Find the dosage for a child who weighs 22 kg. 9 ml



Evaluate the following:

4.  $[24] = \underline{24}$

7.  $[\frac{14}{5}] = \underline{2}$

9.  $|-21| = \underline{-21}$

5.  $[-7.6] = \underline{-8}$

8.  $|13| = \underline{13}$

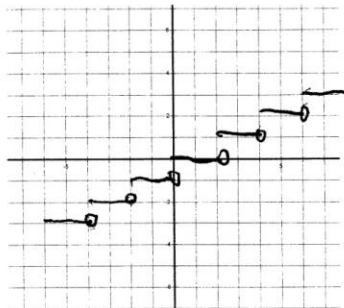
10.  $|-4.2| = \underline{-5}$

6.  $[24.3] = \underline{24}$

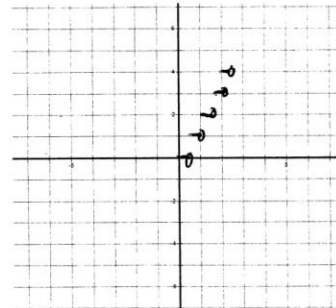
11.  $|18.7| = \underline{18}$

Graph the following functions on the grids provided:

12.  $y = \lceil \frac{1}{2}x \rceil$



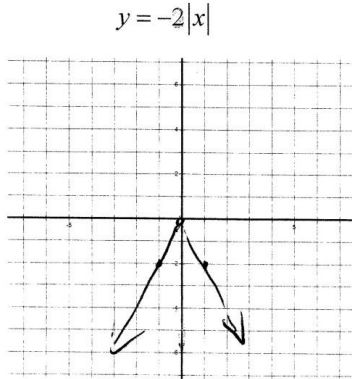
13.  $y = 2[x]$



KEY

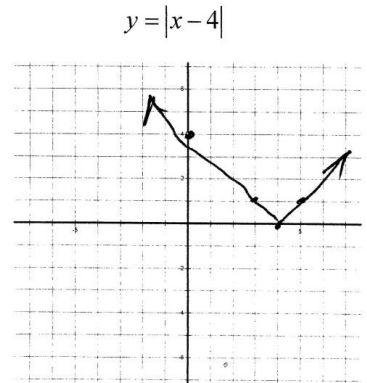
14.

x	y
-3	-6
-2	-4
-1	-2
0	0
1	-2
2	-4
3	-6



15.

x	y
-3	7
-2	6
-1	5
0	4
1	3
2	2
3	1



Give the vertex and the line of symmetry for problems 14 and 15:

16. Problem 14: vertex:  $(0, 0)$   
 Line of symmetry:  $x = 0$

17. Problem 15: vertex:  $(4, 0)$   
 Line of symmetry:  $x = 4$

Evaluate each piecewise function for  $x = -2$  and  $x = 4$ .

18.  $k(x) = \begin{cases} 2x^2 - 1 & \text{if } x \leq -1 \\ 3x + 2 & \text{if } x > -1 \end{cases}$

$k(-2) = 7$

$k(4) = 14$

19.  $p(x) = \begin{cases} 2x + 5 & \text{if } x < 0 \\ x^2 - 5 & \text{if } x \geq 0 \end{cases}$

$p(-2) = 1$

$p(4) = 11$

Make a table and graph the piecewise function.

20.  $f(x) = \begin{cases} 2x + 4 & \text{if } x < -1 \\ -x + 3 & \text{if } x \geq -1 \end{cases}$

x	$f(x) = 2x + 4$	$f(x) = -x + 3$
-3	-2	1
-2	0	1
-1	2	4
0	4	3
1	6	2

