

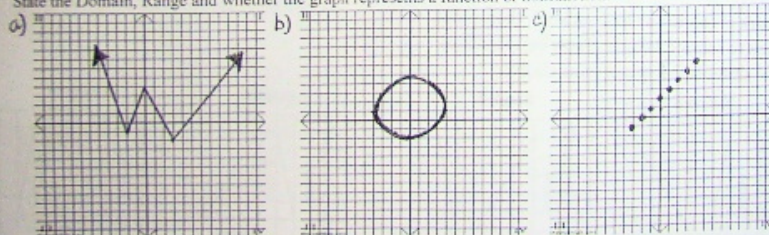
Unit #4 - Review

$f(x) = 3x^2 - 5$ $g(x) = \frac{4x-2}{2}$ $h(x) = 3(x-3)^2 + 4$ $i(x) = 3x + x + x + x$ ~~Use the~~

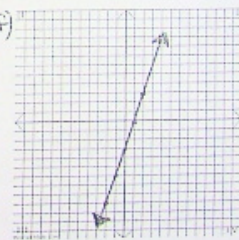
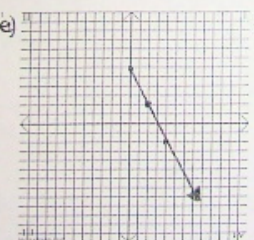
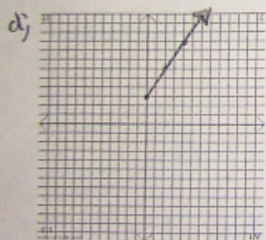
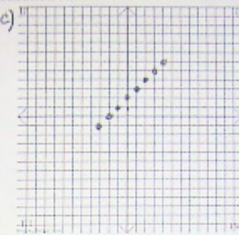
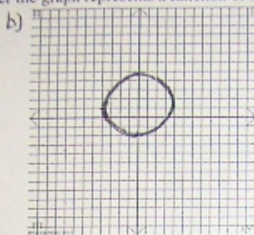
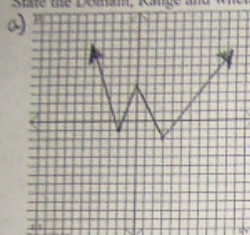
functions for each of the following questions.

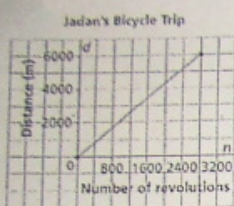
1. Find $i(g(3))$ a) 30 b) 5 c) 150 d) 35
2. Find $h(8) - g(8)$ a) 79 b) 15 c) 64 d) 94
3. Find $i(x) = 18$ a) 6 b) 3 c) 9 d) 2
4. Find $h(x) = 151$ a) 10 b) 7 c) 46 d) 56
5. Find $h(7) - g(i(2))$ a) 52 b) -224 c) 224 d) 29

6. State the Domain, Range and whether the graph represents a function or nonfunction.



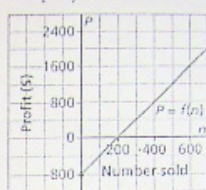
6. State the Domain, Range and whether the graph represents a function or nonfunction.





- a) How far was Jadan from the lookout when she started her bicycle trip?
- b) Write the domain and range.

9. This graph shows the profit, P dollars, on a company's sale of n baseball caps.



- a) What is the start up cost (initial amount)?
- b) If 221 baseball caps were sold, how much profit would be made?
- c) How many baseball caps would you need to sell to make a profit of \$1200.00?

Which sets of ordered pairs represent functions?

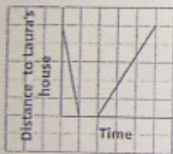
What strategies did you use to find out?

- a) $\{(4, 3), (4, 2), (4, 1), (4, 0)\}$
- b) $\{(2, 4), (-2, 4), (3, 9), (-3, 9)\}$
- c) $\{(2, 8), (3, 12), (4, 16), (5, 20)\}$
- d) $\{(5, 5), (5, -5), (-5, 5), (-5, -5)\}$

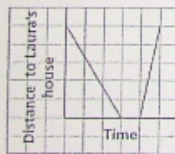
11

- a) Laura cycles home from school, then walks back to school. Which graph best matches this situation? Explain your choice.

Graph A



Graph B



Graph C



Graph D



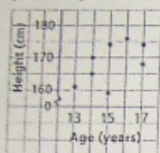
- b) Choose one of the graphs in part a that did not describe Laura's journey. Describe a possible situation for the graph.

12.

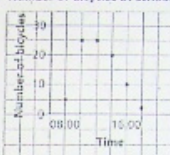
9. Which of these graphs represents a function? Justify your answer.

Write the domain and range for each graph.

a) Heights and Ages of 8 Students



b) Number of Bicycles at School



$$A 1. \quad i(g(3)^5)$$

$$g(3)$$

$$g(x) = \frac{4x - 2}{2}$$

$$g(3) = \frac{4(3) - 2}{2}$$

$$= \frac{12 - 2}{2}$$

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

$$= 5$$

$$i(5)$$

$$i(x) = 3x + x + x + x$$

$$i(5) = 3(5) + 5 + 5 + 5$$

$$i(5) = 15 + 5 + 5 + 5$$

$$i(5) = 30$$

$$C2. \quad \begin{array}{r} h(8) - g(8) \\ 79 - 15 \\ \hline 64 \end{array}$$

$$\begin{aligned} h(8) &= 3(x-3)^2 + 4 \\ h(8) &= 3(8-3)^2 + 4 \\ h(8) &= 3(5)^2 + 4 \\ h(8) &= 3(25) + 4 \\ h(8) &= 75 + 4 \\ h(8) &= 79 \end{aligned}$$

$$\begin{aligned} g(8) &= \frac{4x-2}{2} \\ g(8) &= \frac{4(8)-2}{2} \\ &= \frac{32-2}{2} \\ &= \frac{30}{2} \\ &= 15 \end{aligned}$$

$$B3. \quad i(x) = 18$$

$$\begin{aligned} i(x) &= 3x + x + x + x \\ 18 &= 3x + x + x + x \\ 18 &= \frac{6x}{6} \\ 3 &= x \end{aligned}$$

$$A4. \quad h(x) = 151$$

$$\begin{aligned} h(x) &= 3(x-3)^2 + 4 \\ 151 &= 3(x-3)^2 + 4 \\ 147 &= \frac{3(x-3)^2}{3} \\ \sqrt[3]{147} &= \sqrt[3]{(x-3)^2} \\ 7^{+3} &= x-3^{+3} \\ 10 &= x \end{aligned}$$

D 5. $h(7) - g(i(2))$
 $52 - 23$
 $\textcircled{29}$

$h(x) = 3(x-3)^2 + 4$	$i(x) = 3x + x + x + x$	}	$g(x) = \frac{4x-2}{2}$
$h(7) = 3(7-3)^2 + 4$	$i(2) = 3(2) + 2 + 2 + 2$		$\frac{2}{2}$
$h(7) = 3(4)^2 + 4$	$i(2) = 6 + 2 + 2 + 2$		$g(2) = \frac{4(2)-2}{2}$
$h(7) = 3(16) + 4$	$i(2) = 12$		$= \frac{48-2}{2}$
$h(7) = 48 + 4$			$= \frac{46}{2}$
$h(7) = 52$			$= 23$

6. Domain	Range	Function / Non f.
a) $x \in \mathbb{R}$	$y \geq -2, y \in \mathbb{R}$	F
b) $-4 \leq x \leq 4, x \in \mathbb{R}$	$-2 \leq y \leq 5, y \in \mathbb{R}$	NF
c) $-3 \leq x \leq 4, x \in \mathbb{I}$	$-4 \leq y \leq 6, y \in \mathbb{I}$	F
d) $\{x \mid 0 \leq x \leq \infty, x \in \mathbb{R}\}$	$\{y \mid \overset{3}{\cancel{2}} \leq y \leq \overset{\infty}{\cancel{6}}, y \in \mathbb{R}\}$	F
e) $\{x \mid 0 \leq x \leq \infty, x \in \mathbb{R}\}$	$\{y \mid -\infty \leq y \leq 6, y \in \mathbb{R}\}$	F
f) $\{x \mid -\infty \leq x \leq \infty, x \in \mathbb{R}\}$	$\{y \mid -\infty \leq y \leq \infty, y \in \mathbb{R}\}$	F

8. a) Jaden started at zero.

b) Domain: $\{x | 0 \leq x \leq 2800, x \in \mathbb{R}\}$

9.

a) The "initial amount" is -800.

10. a) 4, 3	b) 2, 4	c) 2, 8	d) 5, 5
4, 2	-2, 4	3, 12	5, -5
4, 1	3, 9	4, 16	-5, 5
4, 0	-3, 9	5, 20	-5, -5
Nonfunction	function	function	Nonfunction

