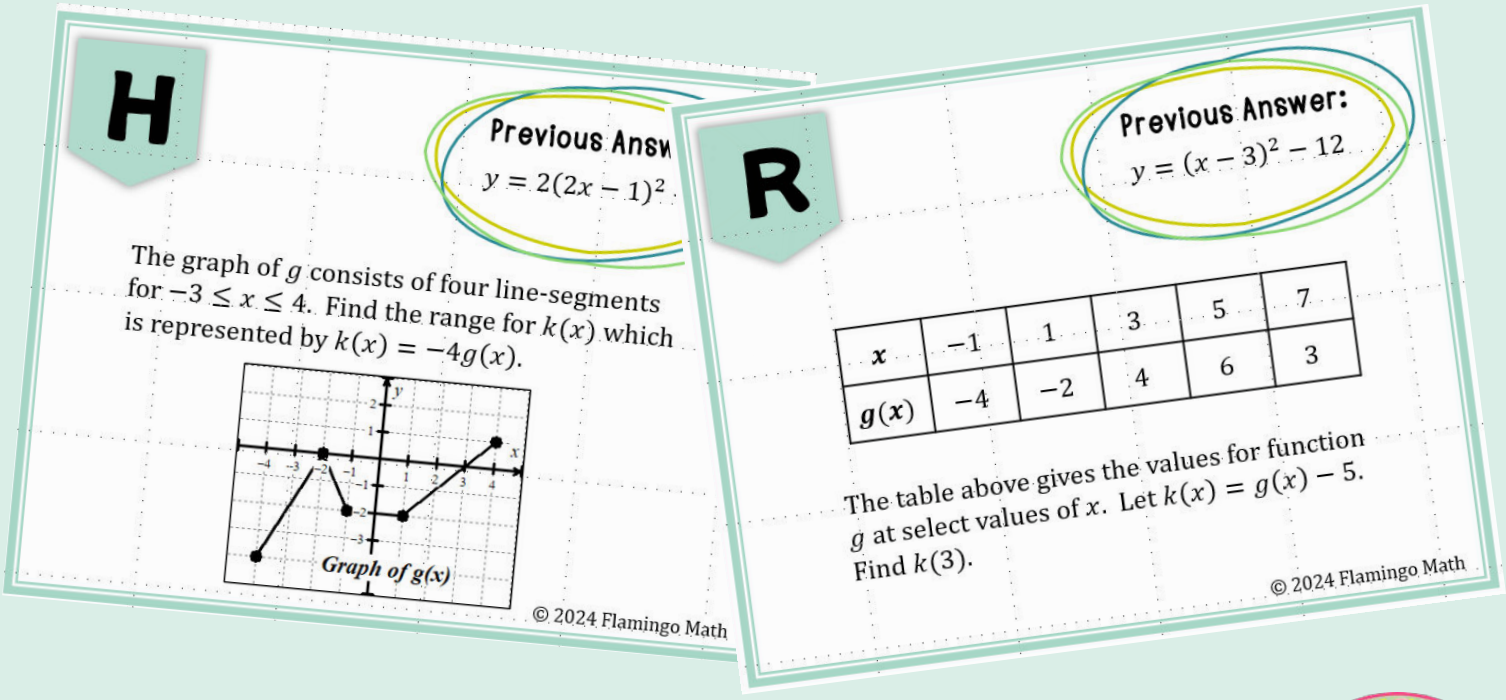
AP® Precalculus

Transformations of Functions



Scavenger Hunt

Flamingo MATH
Jean Adams

A

Previous Answer:
$y = -f\left(\frac{1}{2}x\right) - 4$

The function f is represented by the equation $f(x) = (x-3)^2 - 4$. Write an equation for $g(x) = y$ which is the result of a vertical translation of f by 9 units.

© 2024 Flamingo Math

B

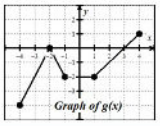
Previous Answer:
$[-4, 16]$

The function f is represented by the equation $f(x) = 2(x-1)^2 + 3$. Write an equation for $y = h(x)$ which is represented by $h(x) = f\left(\frac{1}{4}x\right)$.

C

Previous Answer:
$y = -12x + 20$

The graph of g consists of four line-segments for $-3 \le x \le 4$. Find the range for $k(x)$ which is represented by $k(x) = 3g(x)$.



© 2024 Flamingo Math

D

Previou

Let $y = p(x)$ be the graph of the functi
applying transformation in this order: a
translation right by 3 units, and vertical
factor of 2 and a vertical translation do
Write the equation for $y = p(x)$.

E

Previous Answer:
-3

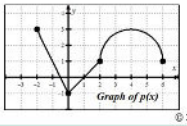
The domain of a function $g(x)$ is $-4 \le x \le 10$, and the range of g is $-10 \le y \le 7$. Find the domain and range of k, where $k(x) = 3g(x+5) - 7$.

© 2024 Flamingo Math

F

Previous Answer:
$[-8, 0]$

Use the graph of $p(x)$ shown below, to find the domain of $j(x)$ which can be represented by the function $j(x) = p(x-5)$.



© 2024 Flamingo Math

G

Previous Answer:
$y = (x-3)^2 + 5$

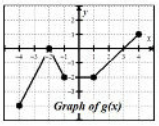
The function f is represented by the equation
$-3)^2 - 4$. Write an equation for
which is the result of a vertical
n of f by -8 units.

© 2024 Flamingo Math

H

Previous Answer:
$y = 2(2x-1)^2 + 3$

The graph of g consists of four line-segments for $-3 \le x \le 4$. Find the range for $j(x)$ which is represented by $k(x) = -4g(x)$.



© 2024 Flamingo Math

J

Previous Answer:
$-5 \le x \le 15$
$-5 \le y \le 23$

x	1	2	5	8
$g(x)$	-1	4	3	-2

The table above gives the values for function g at select values of x. Let $h(x) = g(x+7) - 6$, find $h(-2)$.

© 2024 Flamingo Math

K

Previous Answer:
-1

x	-1	1	3	5	7
$g(x)$	-4	-2	4	6	3

The table above gives the values for function g at select values of x. Let $m(x) = g(x-4)$ find $m(9)$.

© 2024 Flamingo Math

L

Previous Answer:
$[3, 11]$

The function f is represented by the equation $f(x) = 3x - 5$. Write an equation for $g(x)$ which is represented by $g(x) = 2f(x)$

© 2024 Flamingo Math

M

Previou
$y = 2$

Let $y = p(x)$ be the function that result
applying three transformations to the g
this order: a horizontal dilation by a fac
reflection over the x-axis, and vertical t
translation down by 4 units.
Write the equation for $y = p(x)$.

N

Previous Answer:
$[-12, 3]$

The function f is represented by the equation $f(x) = 2(x-1)^2 + 3$. Write an equation for $y = g(x)$ which is represented by $g(x) = f(2x)$.

© 2024 Flamingo Math

P

Previous Answer:
$-9 \le x \le 5$
$-37 \le y \le 14$

x	-3	-1	1	2	3
$h(x)$	-5	-2	4	7	5

The table above gives values of the function h at select values of x. Let $k(x) = 2h\left(\frac{1}{3}\right)x + 4$. Find $k(3)$.

© 2024 Flamingo Math

Q

Previous Answer:
7

of a function $f(x)$ is $-8 \le x \le 12$, and
f is $-5 \le y \le 9$. Find the domain and
here $h(x) = 2f(x-3) + 5$.

© 2024 Flamingo Math

R

Previous Answer:
$y = (x-3)^2 - 12$

x	-1	1	3	5	7
$g(x)$	-4	-2	4	6	3

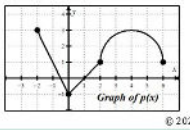
The table above gives the values for function g at select values of x. Let $k(x) = g(x) = 5$. Find $k(3)$.

© 2024 Flamingo Math

S

Previous Answer:
6

Use the graph of $p(x)$ shown below, to find the domain of $k(x)$ which can be represented by the function $k(x) = p(x+6)$.



© 2024 Flamingo Math

T

Previous Answer:
$y = 2\left(\frac{1}{4}x - 1\right)^2 + 3$

x	1	2	5	8
$g(x)$	-1	4	3	-2

The table above gives the values for function g at select values of x. Let $f(x) = g(x-4) + 3$, find $f(6)$.

© 2024 Flamingo Math

U

Previous Answer:
$y = 2f(x-3) - 5$

Let $g(x) = af(bx) + k$, where a, b, and k are constants. Write the equation for the graph of g by applying transformations in this order: a horizontal dilation by a factor of 3, a vertical dilation by a factor of 2 and a vertical translation up 4 units.
Write the equation for $y = p(x)$.

© 2024 Flamingo Math

V

Previous Answer:
$y = 6x - 10$

The function f is represented by the equation $f(x) = 3x - 5$. Write an equation for $h(x)$ which is represented by $h(x) = -4f(x)$

© 2024 Flamingo Math