

Bellwork Hon Alg2 Friday, September

Use these functions: $f(x) = \frac{3x-1}{6-2x}$

$g(x) = 2x^2 + 3x$

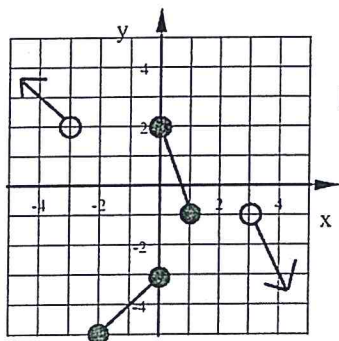
$h(x) = 4x + 7$

1. Find $(f \circ h)(x)$. Simplify.

2. Find $g(f(2))$

3. Find $(f \circ h)(5)$

4. State the Domain and Range of this graph.



Domain:

Range:

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Use these functions: $f(x) = \frac{3x-1}{6-2x}$

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$h(x) = 4x + 7$

1. Find $(f \circ h)(x)$. Simplify.

$$\frac{3(4x+7)-1}{6-2(4x+7)} = \frac{12x+21-1}{6-8x-14} = \frac{12x+20}{-8x-8} = \frac{3x+5}{-2x-2}$$

2. Find $g(f(2)) = 20$

$$\begin{aligned} &\hookrightarrow f(2) \\ &= \frac{3(2)-1}{6-2(2)} \\ &= \frac{6-1}{6-4} \\ &= \frac{5}{2} \end{aligned}$$

then do $g(5/2)$

$$\begin{aligned} &= 2(5/2)^2 + 3(5/2) \\ &= 25/2 + 15/2 = 40/2 = 20 \end{aligned}$$

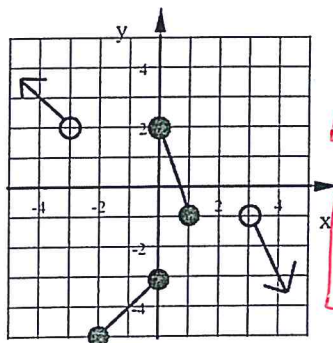
Answers

3. Find $(f \circ h)(5) = -5/3$

$$h(5) = 4(5) + 7 = 27$$

$$\begin{aligned} f(27) &= \frac{3(27)-1}{6-2(27)} \\ &= \frac{80}{-48} \\ &= -5/3 \end{aligned}$$

4. State the Domain and Range of this graph.



Domain: $x < -3$, $-2 \leq x \leq 1$, $x > 3$

Range: $\mathbb{R}$