


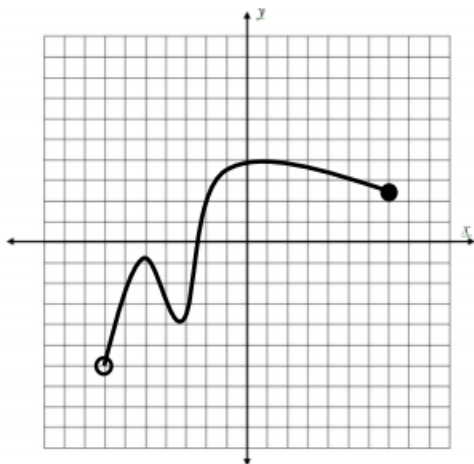


**Directions:** *This is a study tool for the next regents review quiz.*

<p>1. If <math>f(x) = 2x + 7</math> and <math>g(x) = 3x^2 - 1</math>, what expression would represent <math>f(g(x))</math> ?</p> <p> Answer:</p> <div data-bbox="196 659 570 793" style="border: 1px solid black; height: 64px;"></div>	<p><b>Justify</b> your answer.</p>
<p>2. Find the values of <math>m</math> and <math>b</math> for the following equation to be an identity <math>6(2x - 5) - (mx + 2) = 9x + b</math></p> <p> Answer:</p> <div data-bbox="196 1052 570 1186" style="border: 1px solid black; height: 64px;"></div>	<p><b>Justify</b> your answer.</p>
<p>3. The average rate of change of the function <math>f(x)</math> on the interval <math>[-1, 4]</math> for is <math>-3</math>. If <math>f(-1) = -7</math>, what is the value of <math>f(4)</math> ?</p> <p> Answer:</p> <div data-bbox="168 1751 802 1885" style="border: 1px solid black; height: 64px;"></div>	<p><b>Justify</b> your answer!</p>

4. The graph below represents the function  $f(x)$ . State the domain and range of  $f(x)$ .



Answer:

**Justify** your answer!

5. Solve for  $x$  in terms of  $a$ .

$$\left(\frac{1}{27}\right)^{4x+a} = 3^{7x}$$



Answer:

**Explain** your answer.

Answers: 1)  $6x^2 + 5$    2)  $m = 3, b = -32$    3)  $f(4) = -22$    4)  $D: (-7, 7]$     $R: (-6, 4]$   
 5)  $x = -\frac{3}{19}a$