

Standard 3 Practice Quiz B

MA 109

Print Your Name: Solutions ID: _____

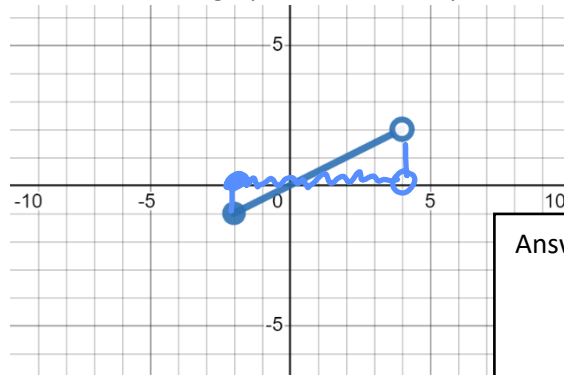
Be sure that the ID number above is your correct 8-digit student ID number (without the leading 9). If this number is incorrect or not legible, it will take longer to process your score on this quiz.

This is practice for an in-class assessments on Standard 3. The only technology allowed during this quiz is a 4-function calculator. No notes or books may be used. This is an individual quiz, so any work done here must be entirely your own work.

Show all of your work. Your work will be graded on both accuracy and completeness, and partial credit is possible. You have 20 minutes to take this quiz.

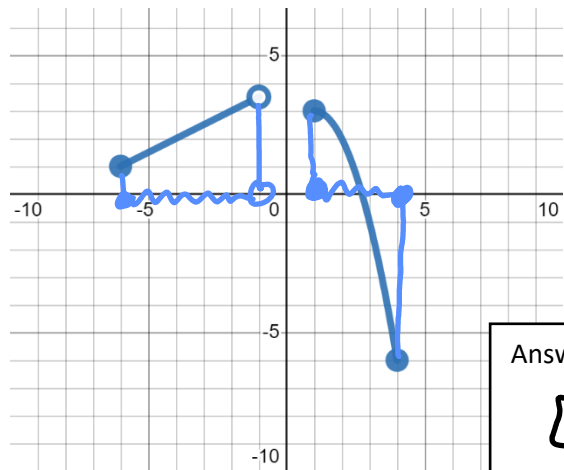
Be sure to complete both the questions on this page and those on the back of this page.

1. Find the **domain** of each graph below. Write your answer using **interval notation**.



Answer:

$$[-2, 4)$$



Answer:

$$[-6, -1) \cup [-1, 4]$$

2. Suppose $f(x) = x^2 + x - 5$.

- a. Suppose the graph of $g(x)$ is the same as the graph of $f(x)$, but **stretched vertically by 2**. Write the formula for $g(x)$ in the answer box below. Do **not** simplify your final answer, but **you must use the formula given for $f(x)$** .

Vertical : outside

Stretch: multiply

$$g(x) = 2f(x) \\ = 2(x^2 + x - 5)$$

Answer:

$$2(x^2 + x - 5)$$

- b. Suppose the graph of $g(x)$ is the same as the graph of $f(x)$, but **stretched horizontally by 2**. Write the formula for $g(x)$ in the answer box below. Do **not** simplify your final answer, but **you must use the formula given for $f(x)$** .

horizontal : inside

Stretch: divide

$$g(x) = f\left(\frac{x}{2}\right) \\ = \left(\frac{x}{2}\right)^2 + \left(\frac{x}{2}\right) - 5$$

Answer:

$$\left(\frac{x}{2}\right)^2 + \left(\frac{x}{2}\right) - 5$$

- c. Suppose the graph of $g(x)$ is the same as the graph of $f(x)$, but **shifted up by 2**. Write the formula for $g(x)$ in the answer box below. Do **not** simplify your final answer, but **you must use the formula given for $f(x)$** .

up = vertical : outside

shift up: add

$$g(x) = f(x) + 2 \\ = x^2 + x - 5 + 2$$

Answer:

$$x^2 + x - 5 + 2 \\ \text{or} \\ x^2 + x - 3$$