# Activity 6 Review

Your summative is on Monday (P1/P5) or Tuesday (P7). The majority is non-calculator, but there is a calculator portion. PLEASE BRING THEM!

Your Activity 5 Calculator Re-Take will also be on those days. You will complete it (if applicable) after you have taken all of the Activity 6 summative.

LESSON 6-1

16. Explain why the graph shown is the graph of a continuous function.

$y = 2x + 4$

Use the graph below for Items 17–19.

Minutes Since Ride Began
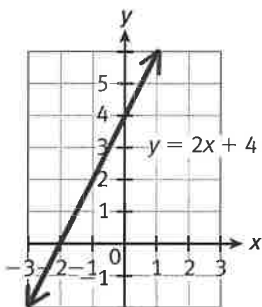
17. Which point corresponds to the absolute maximum of the function?

A. (20, 300)   **B.** (50, 400)

C. (60, 0)   **D.** (0, 0)

18. a. Make sense of problems. Use set notation to write the domain and range of the function.

b. Another balloon had the same height as the second balloon for the first 50 minutes but then took 5 minutes longer to descend. How do the domain and range for the second balloon compare to the domain and range in part a?
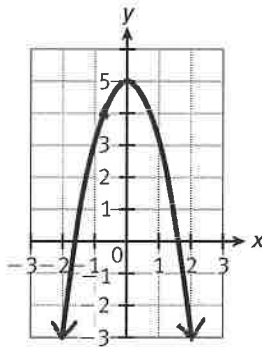
19. a. Identify the y-intercept. What does the y-intercept represent in this situation?

b. Would it be possible for the graph of another balloon's height to have a different y-intercept? Explain.

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LESSON 6-2

20. Explain how to use the graph of a function to determine the *y*-intercept.

Use the graph for Items 21–23.

21. Which statement is true?

  A. This function has no relative or absolute maxima.

  B. This function has a relative maximum of 5 but no absolute maximum.

  C. The point corresponding to the absolute maximum is above the *y*-intercept.

  D. The absolute maximum is 5.

22. Identify any relative or absolute minima.

23. Explain why the domain of the function is all real numbers.

24. Construct viable arguments. Rose says that the domain of the function $f(x) = \dfrac{1}{x+4}$ is all real numbers. Is Rose correct? If so, explain why. If not, explain why not and give the correct domain.

LESSON 6-3

25. A plumber charges $65 per hour plus a $100 inspection fee. The cost for *x* hours of work is given by the function $f(x) = 65x + 100$.

  a. Identify the independent and dependent variables.

  b. Identify the reasonable domain and range. Explain your answers.

26. James bought a plant that was 3 inches tall. Each week the plant grew 2 inches. The function $h(x) = 2x + 3$ describes the height of the plant after *x* weeks. Which is the reasonable domain for this function?

  A. $\{x : x \geq 2\}$

  B. $\{x : x \geq 3\}$

  C. $\{x : x \geq 0\}$

  D. All real numbers

Use the graph below for Items 27 and 28.
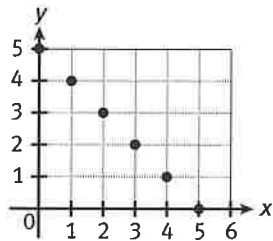
27. Attend to precision. Explain why $\{x: x \geq 0\}$ is not a reasonable domain.

28. Write a real-world situation that matches the graph.