

Math 1 Unit 2 Test review [learning target] show work on a separate page and staple on

1. An elevator in a high-rise building moves upward at a constant rate. The table shows the height of the elevator above the ground floor after various times.

	Time	Height
Units	Seconds	Feet
	0	0
	1	12
	2	24
	3	
	4.5	
	5	
Expression	t	

- a. What are the dependent and independent quantities in this problem situation? Explain your reasoning.

- c. Complete the table. Write an expression that represents the height for an arbitrary time t seconds in the last row.

Write a function below –use proper notation!

- d. Use function notation to determine the height of the elevator at a time of 14 seconds.

2. [D] Evaluate the function $f(x) = 8.2x + 4.7$

a. at $x = 3$

b. $f(-2)$

3. [G] Solve the inequality and graph your solution on a number line.

$$-5(x + 4) > 31$$

4. [K] Write a compound inequality and then graph all solutions on a number line. *A number is less than or equal to 12 and greater than -3.*

5. [C] Solve and justify your steps – copy this on onto your work page

Solution steps	Justification/Property name
$8(x+5)=10(x-4)+36$	Given
	Etc.

6. [E, F, I]

. Suppose an elevator starts at the top floor of a high-rise building at a height of 372 feet above the ground floor and descends without stopping at a constant rate of 15 feet per second.

a. Write a function that describes the height, h , of the elevator after t seconds.

b. Graph the function that you wrote in part (a).



∴ Estimate when the elevator is at a height of 200 feet.

7. [H] Alex has \$40 to spend at the football game. She has already spent \$12.50 on snacks. She loves the spirit “we’re number one!” balloons that cost \$6 each. (a) Write an inequality Alex could use to find out how many spirit balloons she can buy without going over her budget. (b) Solve the inequality.

8. [L] Evaluate a. $|-12 - 14|$ b. $-|-18|$

9. [M] Solve. Show all work. $54 = 5|x - 4| + 9$

10. [N] Solve and graph. $8 < 2|x + 5|$

11. [J] Solve the compound inequality. Graph your solution (3 number lines please). Is this a conjunction or a disjunction? $-4x + 2 > 7$ or $23 < 6 + 3x$