

Name: _____

Per: _____

POINTS: _____

Classwork #35 Quiz

Be sure to include your work when appropriate.

Use the information below to complete questions 1 - 4.

A cardboard container is constructed by cutting a square out of a rectangular piece of cardboard measuring 20 inches by 40 inches. The sides created are then folded up to form the height of the container.

- Fill in the table of values based on x , the side length of the removed square. The first 2 lines of the table have been completed for you.

SIDE LENGTH OF SQUARE, IN INCHES, x	WIDTH OF CONTAINER, IN INCHES, $w(x)$	LENGTH OF CONTAINER, IN INCHES, $l(x)$	HEIGHT OF SIDES, IN INCHES, $h(x)$	VOLUME OF CONTAINER, IN CU. IN., $V(x)$
0	20	40	0	0
1	18	38	1	684
2			2	
3			3	
4			4	
5			5	
6			6	
7			7	

- What type of function is $V(x)$?

- Write the function $V(x)$.

- Based on the function rule for $V(x)$, what would be the volume of a container if the side length of the removed square is 7.5 inches?

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Use the functions shown to write the simplest of form of the indicated products.

$$\begin{aligned}a(x) &= 2x \\b(x) &= 10 - 2x \\c(x) &= 3x + 12\end{aligned}$$

5. $b(x) \cdot c(x)$

6. $a(x) \cdot c(x)$

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