Fearless Frames	Rubric	
	Points	Section points
Shows that the volume of the prism $V = x^2y$. The perimeter of the prism $P = 8x + 4y = 60$ $y = 15 – 2x$ $V = x^2(15 – 2x)$	3	
The graph of V against x shows that as x increases from 1 to 5 the volume increases, and than decreases for values of x from 5 to 7. V is max when x = 5.	2	
Alternatively May make a list showing the values x = 4 and volume 112 x = 6 and volume 108 When x = 5, y = 5 and V = 125	or	
States that for P = 60 meters, the maximum volume is 125 cubic meters.	2	5
Shows that the height of the equilateral triangle is $\sqrt{3}x/2$. The volume of the prism (V) = $\sqrt{3}x^2y/4$ The perimeter of the prism (P) = $6x + 3y = 60$ $y = 20 - 2x$ $V = \sqrt{3}x^2(20 - 2x)/4$ V is maximum when $x = y = 6^2/_3$ (accept values 6 – 7) For perimeter 60 meters, the maximum volume is 128 cubic meters. Accept vales 124 - 128	4	4
Advise the customer that, using 60 meters of tubing, a container with a cross section which is an equilateral triangle holds a little more than one which is a square.	1 ft	1
Total Points		**10**