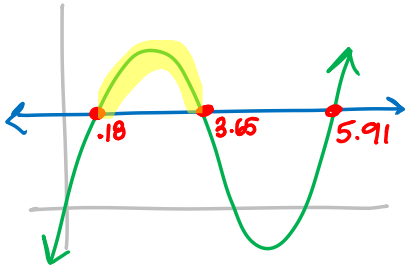
Precalculus
2.8 – Box Problem Opener

Name: Key
Period:

Using a pair of scissors, you cut congruent squares off of the four corners of an 8.5" by 11" piece of card stock. Once the squares are cut off, you fold up the sides to form an open box (a box without a top).

1. If you want the box to have a <u>minimum</u> volume of 16 cubic inches, what size squares could have been cut from the cardstock?

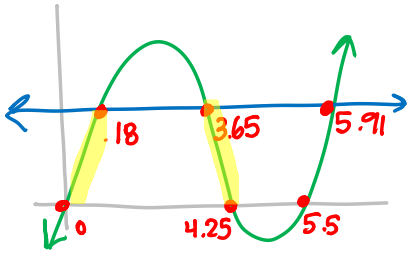
$16 \leq (11-2x)(8.5-2x)x$



$[.18, 3.65]$

2. If you want the box to have a <u>maximum</u> volume of 16 cubic inches, what size squares could have been cut from the cardstock?

$16 \geq (11-2x)(8.5-2x)(x)$



$(0, .18] \cup [3.65, 4.25)$

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1. If you want the box to have a <u>minimum</u> volume of 16 cubic inches, what size squares could have been cut from the cardstock?

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