

C12 - 3.5 - Open Rectangular Box Cut Side x WS

An open rectangular box is made by cutting equal lengths from each corner of a 10 cm by 8 cm rectangular piece of cardboard, then folding up the sides. Find the length of the square that must be cut from each corner so the box has a volume of 48 cm^3 . And find Max Volume. $x=1,2$, $V=52.52$

C12 - 3.5 - Word Problems

An open rectangular box is made by cutting equal lengths from each corner of a 4 cm by 6 cm rectangular piece of cardboard, then folding up the sides. Find the length of the square that must be cut from each corner so the box has a volume of 8 cm^3 . And find Max Volume. $x=1, V=8.45$

5 cm by 7 cm: volume of 6 cm^3 . $x=2, V=15.02$

9 cm by 11 cm: volume of 45 cm^3 . $x=3, V=72.42$

A box of 1 cm^3 length's are increased by the same amount. Find the increase, the new dimensions and Volume if the new volume is 8 times larger. $x=1$. 27 times larger. $x=2$

A box of $1 \times 2 \times 3 \text{ cm}$ length's are increased by the same amount. Find the increase, the new dimensions and Volume if the new volume is 20 times larger. $x=3$. $4 \times 5 \times 6, V=120$

$1 \times 2 \times 3$, 35 times larger. $x=4, 5 \times 6 \times 7, V=210$

$1 \times 2 \times 3$, 10 times larger. $x=2, 3 \times 4 \times 5, V=210$

A cylinder with the same radius as its height. Find the dimensions if the Volume is π . 8π . 27π

A cylinder with radius and height both 2 cm. Find the dimensions if both are increased by the same amount to have a Volume of 64π . $x = 2$. Volume of 27π . $x=1$

A cylinder with radius 2 cm and height 3 cm. Find the dimensions if both are increased by the same amount to have a Volume of 36π . $x = 1$. Volume of 80π . $x = 2$. Volume of 150π . $x = 3$

A company has the following revenue and cost functions on units: $R(x) = x^3$ and $C(x) = 6x^2 - 11x - 6$. Find the number of units to break even. To profit \$24. To profit \$60. To profit \$720.