

Graph is a set of all
the inputs and
outputs of a function
critical thinking

[Sociology](#), [Social Issues](#)



Select any two integers between -12 and 12 which will become solutions to a system of two equations.

$(1, 1/2)$ or $x = 1$ and $y = 1/2$

Write two equations that have your two integers as solutions.

$2x + 2y = 3$ First Equation

$2x + 2y = 1$ Second Equation

Show how you built the equations using your integers.

let $x = 1$ And $y = 1/2$

Now $4x + 0 = 4$

And $y = 1/2$ therefore $2y = 1$

$2(1) + 2y = 3$ thus $2x + 2y = 3$

Now adding: $\{2x + 2y = 3\} + \{-x - y = -1\} = \{4x + 0 = 4\}$ which yields $2x + 2y = 1$

Solve the system of equations by the addition/subtraction method.

$\{2x + 2y = 3\} + \{2x + 2y = 1\} = 4x + 0 = 4$

The terms containing y add up to zero and gives

$4x + 0 = 4$ hence $x = 1$

Now we know x and can solve for y by substituting the now known value for x into either of our original equations.

$2x + 2y = 3$

$2(1) + 2y = 3$; $2y = 3 - 2 = 1$ and so $y = 1/2$

Question 2:

Dimensions of the room in

the length= 4m= 13. 12ft

the width= 3m= 9. 84ft

the height= 3. 5m= 11. 48ft

Converting the measurements to all inches

the length= 4m= 157. 48in

the width= 3m= 118. 11in

the height= 3. 5m= 137. 8in

converting back to square feet

13. 12ft= 172. 13sq. ft

9. 84ft= 96. 83 sq. ft

11. 48ft= 131. 79 sq. ft

surface area of the room= $(L*H + W*H)*2=(13. 12*11. 48 + 9. 84*11. 48)*2=$
527. 16 sq. ft

A gallon of paint covers about 350 square feet.

gallons required to paint the room= $(527. 16 \text{ sq. ft}/350 \text{ square feet})*1 \text{ gallon}$
= 1. 5 gallons

that is 2 gallons.

a gallon of paint costs \$22. 95 plus $(8/100)*22. 95= \$24. 786$

the total cost to paint the room= $\$24. 786 *2 = \$49. 572$

One inch is equivalent to 2.54 centimeters. therefore

the length = $4\text{m} = 157.48\text{in} \times 2.54 = 400\text{cm}$

the width = $3\text{m} = 118.11\text{in} \times 2.54 = 300\text{cm}$

the height = $3.5\text{m} = 137.8\text{in} \times 2.54 = 350\text{cm}$

Find the volume in cubic centimeters.

Volume = $L \times W \times H = 400 \times 300 \times 350 = 42 \times 10^6$ cubic centimeters

If each dimension (length, width, and height) is doubled,

The volume of the room doubles = $(400 \times 300 \times 350) = 84 \times 10^6$ cubic centimeters