

Sally's favorite color is pink. Her favorite shade of pink is then the paint is 33% red. She wants to mix up 5 gallons of her favorite pink but all that is available is paint that is 17% red and another that is 37% red. How many gallons of each of these paints should be mixed to get what she wants?

X Gal of 17% red paint = 1
Y Gal of 37% red paint = 4

$$x + y = 5 \quad \text{total gallons of paint}$$

Solve this equation for y and substitute

$$y = 5 - x$$

$$.17x + .37y = .33(5) \quad \text{Amount of Red}$$

$$.17x + .37y = 1.65$$

answer:

1 gallon of 17% red paint and 4 gallons of 37% red paint.

if $x = 1$ & $x + y = 5$
 $y = 4$

$$.17x + .37(5 - x) = 1.65$$

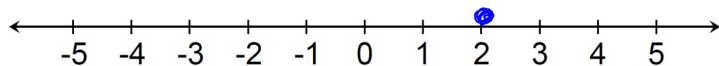
$$.17x + 1.85 - .37x = 1.65$$

$$-.20x = -.20$$

$$x = 1$$

Graph this on a number line:

$$x = 2$$



You are going to mix together two kinds of window cleaner. One of the cleaners has 2% ammonia and the other has 5% ammonia.

How many ounces of each acid solution should you use so that you will end up with 24 ounces of a mixture that is 3% ammonia?

X = ounces of 2% ammonia Y = ounces of 5% ammonia

Ounces of Solution

solving by elimination might look like this:

$$\begin{array}{r} .02(24 = x + y) \longrightarrow .48 = .02x + .02y \\ \text{Ounces of pure ammonia} \quad - \quad .72 = .02x + .05y \\ \hline .03x = -.24 \\ \hline x = -8 \end{array}$$

Answer:

Mix together 16 ounces of the 2% solution and 8 ounces of the 8% solution.

using $24 = x + y$
 $24 = x + 8$
 $16 = x$

Number line graph of the solution to an equation:

Just a point on the number line.