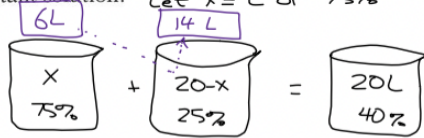


2-3 D2 Notes

Monday, October 9, 2023 8:34 AM

Solve. For each, define a variable, translate into an equation, then find the answer to the question. A chart or a picture may be helpful.

14. A hospital staff mixed a 75% disinfectant solution with a 25% disinfectant solution. How many liters of each were used to make 20 L of a 40% disinfectant solution? Let $x = \text{L of } 75\%$



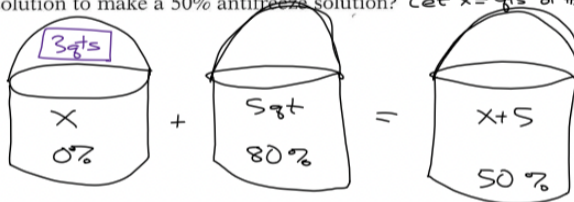
$$.75x + .25(20-x) = .40(20)$$

$$.75x + 5 - .25x = 8$$

$$.5x = 3$$

$$x = 6$$

18. How many quarts of water must be added to 5 qt of an 80% antifreeze solution to make a 50% antifreeze solution? Let $x = \text{qts of } H_2O$



$$0x + 5(.80) = .50(x+5)$$

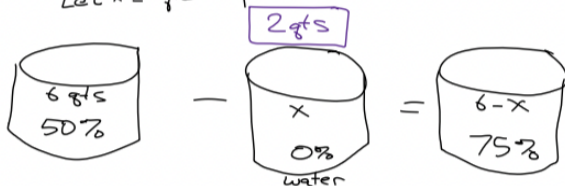
$$4 = .5x + 2.5$$

$$1.5 = .5x$$

$$x = 3$$

22. How much water must be evaporated from 6 qt of a 50% antifreeze solution to produce a 75% solution?

Let $x = \text{qts evaporated}$



$$6(.5) - 0 = .75(6-x)$$

$$3 = 4.5 - .75x$$

$$-1.5 = -.75x$$

$$x = 2$$