

## Numbers and Operations: Operating Room Nurse

### St. Alphonsus Hospital

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#### **Problem:**

The average person has 2,000 cc of blood in their normal circulation. If they lose more than 20% of their volume they need a transfusion.

During surgery, blood is lost on sponges. Dry sponges weigh 75 gm. Each cc of blood weighs 1 gm.

After a surgery, if there are 10 sponges weighing 1,250 gm, how much blood did the patient lose?

Would the patient need a transfusion?

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### Solution:

$2000 \text{ cc} \times 20\% = 400 \text{ cc}$  (blood loss that requires transfusion)

$10 \text{ sponges} \times 75 \text{ gm} = 750 \text{ gm}$  (weight of 10 dry sponges)

$1250 \text{ gm}$  (sponges after surgery) -  $750 \text{ gm}$  (dry sponge) =  $500 \text{ gm}$  of blood in sponges

$500 \text{ gm} = 500 \text{ cc}$  which is greater than  $400 \text{ cc}$  (20% of volume), so YES, a transfusion is needed.