

## Case studies

Determine if the equivalent makes sense.  
If 1 kg equals 2.2 lb, it makes sense that 174 lb equals 79.1 kg.



A nurse is calculating a dosage of heparin. Available is heparin 25,000 units in 0.9% NaCl 500 mL. The nurse should set the IV pump to deliver how many mL/hr?

(Review the MAR. Round the answer to the nearest tenth.)



15.3

### Step 1

What is the unit of measurement the nurse should calculate? (Place the unit of measure being calculated on the left side of the equation.)

X mL/hr =

### Step 2

Find the ratio in the item that contains the same unit as the unit being calculated. (Place the ratio on the right side of the equation, ensuring that the unit in the numerator matches the unit being calculated.)

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# Case studies



A nurse is converting a client's weight from pounds to kilograms. What is the client's weight in kilograms?

(Review the MAR. Round the answer to the nearest tenth.)

✓ 79.1

### Step 1

What is the unit of measurement the nurse should calculate? (Place the unit of measure being calculated on the left side of the equation.)

X kg =

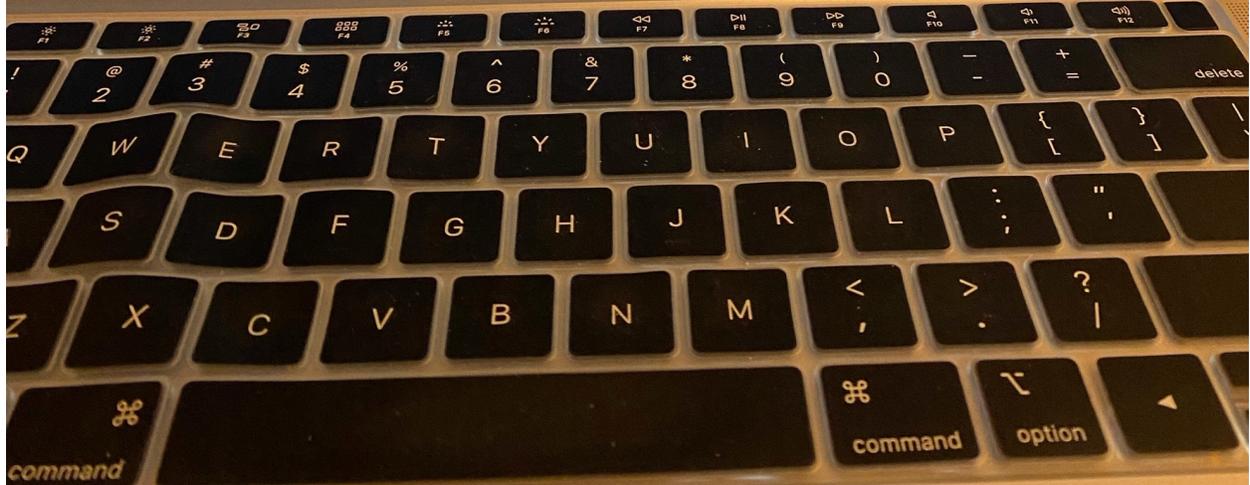
### Step 2

Find the ratio in the item that contains the same unit as the unit being calculated. (Place the ratio on the right side of the equation, ensuring that the unit in the numerator matches the unit being calculated.)

$$X \text{ kg} = \frac{1 \text{ kg}}{2.2 \text{ lb}}$$

### Step 3

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# Case studies



A nurse is calculating a dosage of nitroglycerin. Available is nitroglycerin 25 mg in D<sub>5</sub>W 250 mL. The nurse should set the IV pump to deliver how many mL/hr?

(Review the MAR. Round the answer to the nearest tenth.)

### Step 1

What is the unit of measurement the nurse should calculate? (Place the unit of measure being calculated on the left side of the equation.)

X mL/hr =

### Step 2

Find the ratio in the item that contains the same unit as the unit being calculated. (Place the ratio on the right side of the equation, ensuring that the unit in the numerator matches the unit being calculated.)

$$X \text{ mL/hr} = \frac{250 \text{ mL}}{25 \text{ mg}}$$

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## Case studies

If there are 0.1 mg/mL and the prescribed amount is 12 mcg/min, it makes sense to administer 7.2 mL/hr. The nurse should pump to deliver nitroglycerin at 7.2 mL/hr.



A nurse is preparing to increase the dosage of nitroglycerin by 5 mcg. The nurse should set the IV pump to deliver how many mL/hr? (Review the MAR. Round the answer to the nearest tenth.)



0

### Step 1

What is the unit of measurement the nurse should calculate? (Place the unit of measure being calculated on the left side of the equation.)

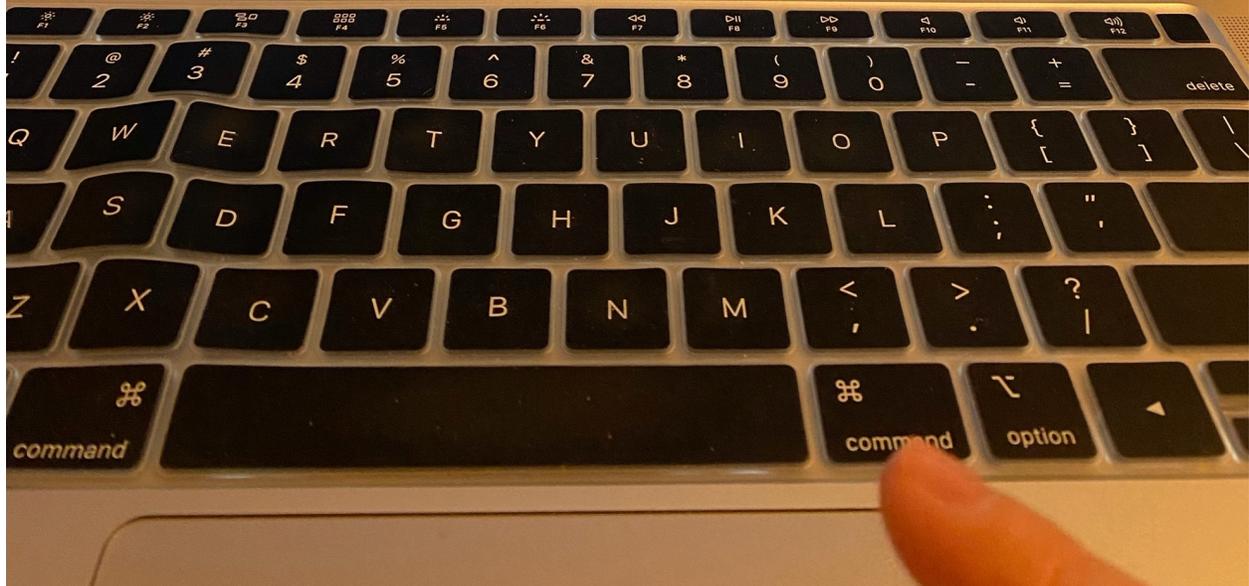
X mL/hr =

### Step 2

What is the desired dose?

12 mcg + 5 mcg = 17 mcg

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## Case studies



A nurse is calculating the flow rate for D<sub>5</sub>W fluid bolus. How many mL/hr should the nurse administer?

(Review the MAR. Round the answer to the nearest whole number.)

✓ 250

### Step 1

What is the unit of measurement the nurse should calculate? (Place the unit of measure being calculated on the left side of the equation.)

X mL/hr =

### Step 2

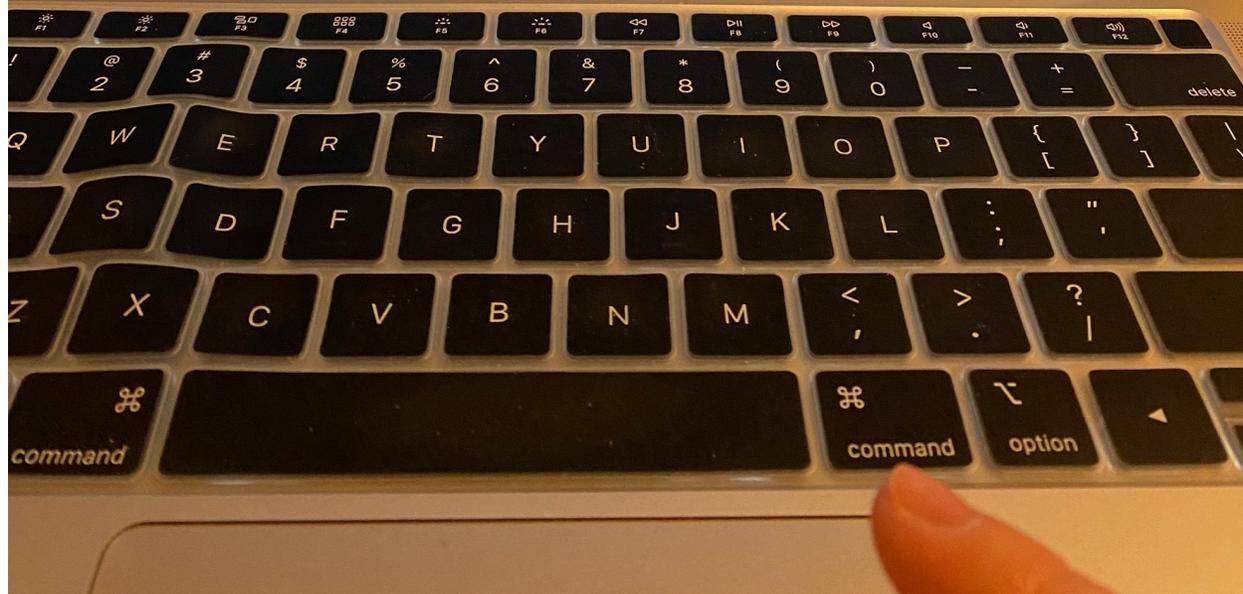
Find the ratio in the item that contains the same unit as the unit being calculated. (Place the ratio on the right side of the equation, ensuring that the unit in the numerator matches the unit being calculated.)

$$X \text{ mL/hr} = \frac{500 \text{ mL}}{2 \text{ hr}}$$

### Step 3

Place any remaining ratios that are relevant to the item on the right side of the equation along with any needed conversion factors to cancel out unwanted units of measure.

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# Case studies

**LABETALOL**  
HYDROCHLORIDE INJECTION, USP  
100 mg/20 mL  
(5 mg/mL) Rx Only

FOR INTRAVENOUS INJECTION ONLY  
20 mL Multiple Dose Vial

Store at 20° to 25°C (68 to 77° F).  
(See USP Controlled Room Temperature).  
Protect from freezing and light.  
Retain in cartons until time of use.

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### Step 1

What is the unit of measurement the nurse should calculate? (Place the unit of measure being calculated on the left side of the equation.)

$$X \text{ mL} =$$

### Step 2

Find the ratio in the item that contains the same unit as the unit being calculated. (Place the ratio on the right side of the equation, ensuring that the unit in the numerator matches the unit being calculated.)

$$X \text{ mL} = \frac{1 \text{ mL}}{5 \text{ mg}}$$

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