

The following three questions are related

Williams (33 years) is 70 inches and weighs 187 pounds. His stress and activity factors resulting in a 30% increase in the caloric needs

- For males - ♂:
 - $RME = 66 + (13.7 \times W) + (5 \times H) - (6.8 \times A)$
- For females - ♀:
 - $RME = 655 + (9.6 \times W) + (1.8 \times H) - (4.7 \times A)$

1- What is the basic caloric need?

2- What is the total caloric need?

3- A parenteral nutrition of 2-1 refers to a mixture of

- a. Lipid, dextrose, amino acids
- b. Dextrose, amino acids
- c. Lipid, dextrose, electrolytes
- d. Lipid, dextrose, trace elements
- e. Lipid, amino acids

4- The following should result in decreased daily protein need

- a. Stress
- b. Kidney dysfunction
- c. Liver dysfunction
- d. B and C
- e. All of the above

Reference:

[http://www.gserianne.com/
faculty.sdmiramar.edu/](http://www.gserianne.com/faculty.sdmiramar.edu/)

Calculation of medication Dosage (Boundy)
<http://www.rxkinetics.com/>

KCl (20 mEq) in 1 L of 5% Dextrose and 0.2% Sodium Chloride solution

Dextrose Mwt 180, NaCl Mwt 58.5, KCl Mwt 74.5

5- The solution has of dextrose

6- The solution has of NaCl

7- The solution has of KCl

8- The osmolarity of the solution is

The following two questions are related

A child is 40 inches tall and weighs 50 lb. He is ordered: *Oncovin IV at 10 A.M.*

9- What is the child body surface area?

10- What is the correct dosage in mg for this child if the adult recommended dose based on BSA is 3 mg?

11- A 1000 ml IV Normal Saline is ordered over 12 hours. Using an IV set with drop factor of 15 drops / ml, how many drops per minute need to be delivered?

12- Order: infuse Gentamicin 100 mg in 100 mL of 0.9% Normal Saline over 45 minutes. Calculate the infusion rate in ml / minute. The drop factor is 60 drop/ ml

The following three questions are related

You are asked to prepare: KCl 40 mEq/L and infuse at 10 mEq/hr IV

The available supply: vial of KCl 1.49 g/10 mL, D5W 1000 mL (Mwt of Kcl is 74.5)

13- How many ml of the KCl (1.49 g/10 mL) should be added to the 1 L D5W to prepare the order?

14. What is the percentage KCl in the final dilution?

15- What is the infusion rate in mg/ h?

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16- What is the percentage of zinc oxide in an ointment prepared by mixing 200 g of 10% ointment, 30 g of 20% ointment, and 10 g of 5% ointment?

17- How much NaCl is needed to adjust the isotonicity?

Rx

Pilocarpine nitrate 0.5% (E= 0.22)

Boric acid 5 mg/ml (E= 0.52)

SWFI qsad 100 ml

Prepare isotonic solution

Professional, medium eye contact, happy, confident

Reference:

<http://www.gserianne.com/>

faculty.sdmiramar.edu/

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18-

Phenylephrine 0.5 % , E =0.32, 30 mL
Render isotonic with NaCl

19- If you add 0.5 mole of KCl to 2 L of H₂O, what would be the osmolarity of the solution? How many mEq of K are there?

20- If the Ca⁺⁺ concentration is 3 mmol/L, what is the concentration of Ca⁺⁺ in mEq/L?

21- If you were to infuse 1L of IV fluid over 8 hours using tubing with drop factor of 15 what would be the drip rate?

22- Esmolol HCl 2 grams in 250 NS infused at 80 mL/ hour to a patient who is 80 kg. How many mcg/kg/min is the patient receiving ?

23- How many mcg/min is a patient receiving from Isoproterenol 1 mg in 750 mL D5W infused at 75 ml hour?

24- Calculate the flow rate for

a- Dobutamine 200 mg in 250 D5W to be infused at a rate of 10 mcg/kg/min for a 80 kg patient.

b- Lasix 200 mg in 100 mL NS to be infused at 2 mg/hour

25- Use the following figure to answer the osmolarity questions

A.	B.
<u>900 mOsmoles</u>	<u>360 mOsmoles</u>
10 liters	4 liters

a. What is the osmolarity of solution A? and what is the osmolarity of solution B?

b. If you compare the osmolarities of solution A to B, which one is higher and which one is isotonic?

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26- Anna is 75 year old, admitted with complete bowel obstruction . She is 68 inches / 176 kg, her medical history includes type II diabetes. Nutritional support is indicated.

What are her initial estimated calorie, protein, and fluid requirements?
Do you recommend (2-1 or 3-1)



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