

Name: \_\_\_\_\_ Date: \_\_\_\_\_

1. Available in the pharmacy is 200 ml of a 10% povidone-iodine wash concentrate. The physician orders 240 mL of a diluted wash of 1% povidone-iodine. How many mL of the 10% will be needed? \_\_\_\_\_ (5points)
2. Express 0.1% as a RATIO and as a concentration of mg/mL. (5 points)
3. Bleomycin 10 units/m<sup>2</sup> IV push is ordered for a patient with a BSA 2.1 m<sup>2</sup>. Bleomycin is available as 15 units/ml. Calculate how many ml are needed for this patient's dose. \_\_\_\_\_ (5 points)
4. You have a 500 ml bottle of an 8% drug. The rate of infusion is 5 g/hr. What is the rate of infusion in ml/hr and how long will the bottle last? \_\_\_\_\_ , \_\_\_\_\_  
If the IV set is calibrated to 15 drops/mL, how many drops per minute should be administered to the patient? \_\_\_\_\_ (6 points)
5. A patient weighs 90 kg. The order is for 0.5 mg/kg/hr. How many mg will the patient receive in 24 hours? \_\_\_\_\_ (6 points)
6. You are to prepare 350 ml of a 1:50 solution from 1:10 and 1:1,000 stock solutions. How many ml of each of the stock solutions do you need? \_\_\_\_\_ (6 points)
7. You have available Zinc Oxide paste available in your pharmacy in 25% and 15% concentrations. You have a prescription for 225g of Zinc Oxide Paste 32% to be used as a protective around an ostomy site. How much of each Zinc Oxide paste will you need to fill the prescription? (6 points)
8. Calculate how many ml of a 30% stock solution and ml of a 85% stock solution are needed to prepare 3 liters of 60% solution. \_\_\_\_\_ (5 points)
9. To calculate a concentration you need to know which two pieces of information? (6 points)

10. Bupivacaine is available as a 1:400 w/v solution. The patient is given 10 mL. How many milligrams of bupivacaine did the patient receive? \_\_\_\_\_ (5 points)
  
11. If you mix 100 ml of a 1:100 solution with 350 ml of a 1:200 solution, what is the percentage strength of the final solution? \_\_\_\_\_ What is the ratio strength of the final solution? \_\_\_\_\_ (8 points)
  
12. Ampicillin 500 mg in 50 ml IVPB is to be administered over a period of 15 minutes. The drop factor for the IV administration set is 10 drops/ml. Calculate the rate of flow in drops per minute. \_\_\_\_\_ (5 points)
  
13. Epinephrine is available as 1:1,000 w/v solution. If the patient dose is 0.1 mg IM, how many ml are needed? \_\_\_\_\_ (5 points)
  
14. A 176-pound patient requires a dose of 5 mcg/kg/min of dopamine. How many mg will the patient receive in 20 minutes? \_\_\_\_\_ (6 points)
  
15. The pharmacy has on hand 1,000 ml of an 8% sodium chloride solution. How many grams of sodium chloride are in the solution? \_\_\_\_\_ (4 points)
  
16. 300 ml of a 12% solution is diluted to 600 ml. What is the percent strength of the diluted solution? \_\_\_\_\_ (6 points)
  
17. How many mL of 20% Dextrose and SWFI need to be combined to make 400 mL of 10% Dextrose? (6 points)
  
18. What is the concentration in g/ml of 35 g of a drug with a powder volume of 4 ml if 31 ml of sterile water for injection are added to the vial? \_\_\_\_\_ (5 points)

## Answer Key

1. 24 ml
2. 1:1000, 1 mg/mL
3. 1.4 ml
4. 62.5 ml/hr; 8 hr, 15 gtt/min
5. 1080 mg
6. 67 ml of 1:10 and 283 ml of 1:1000
7. Can not be made with the materials on hand.
8. 1,636 ml of 85% and 1,364 ml of 30%
9. Amount and volume
10. 25 mg
11. 0.6%; 1:167
12. 33 drops/min
13. 0.1 ml
14. 8 mg
15. 80 g
16. 6%
17. 200 mL of each
18. 1 g/ml

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