

INFUSION CALCULATIONS PRACTICE TEST (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

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THE FULL VERSION STUDY GUIDE**

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

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1. Infuse 2 litres over 8 hours. What is the flow rate in mL/h?
 - A. 250 mL/h
 - B. 260 mL/h
 - C. 240 mL/h
 - D. 230 mL/h
2. The nurse must infuse 800 mg over 6 hours. The solution is 100 mg per 5 mL. How many mL per hour?
 - A. 6.67 mL/hr
 - B. 5.0 mL/hr
 - C. 8.0 mL/hr
 - D. 10.0 mL/hr
3. Calculate the rate for 1.5 L Lactated Ringers to be given over 12 hours with tubing that delivers 25 gtt/mL. What is the rate in gtt/min?
 - A. 41 gtt/min
 - B. 39 gtt/min
 - C. 46 gtt/min
 - D. 52 gtt/min
4. The patient needs 0.1 mcg/kg/min of a drug. The patient weighs 40 kg. If the drug solution is 2 mg/mL, what is the mL/min?
 - A. 0.008 mL/min
 - B. 0.002 mL/min
 - C. 0.04 mL/min
 - D. 0.12 mL/min
5. A drug order is 1000 mg to be given over 6 hours. The solution concentration is 500 mg per 5 mL. What is the infusion rate in mL/hr?
 - A. 1.67 mL/hr
 - B. 0.83 mL/hr
 - C. 3.33 mL/hr
 - D. 5.0 mL/hr

6. Calculate the drops per minute for an IV infusion delivering 900 mL over 6 hours with tubing of 15 gtt/mL.
- A. 36 gtt/min
 - B. 37 gtt/min
 - C. 38 gtt/min
 - D. 39 gtt/min
7. A burette pump is set to deliver 60 mL over 15 minutes. What is the flow rate in mL/h?
- A. 40 mL/h
 - B. 240 mL/h
 - C. 60 mL/h
 - D. 180 mL/h
8. A patient needs 1,200 mL to be delivered over 12 hours. What is the infusion rate in mL per hour?
- A. 50 mL/hr
 - B. 120 mL/hr
 - C. 200 mL/hr
 - D. 100 mL/hr
9. The patient is to get 0.9% sodium chloride IV infusing at 65 mL/h for 4 hrs. The drop factor is 25 gtt/mL. What is the total volume that will be infused?
- A. 240 mL
 - B. 250 mL
 - C. 270 mL
 - D. 260 mL
10. A drug is supplied as 8 mg/mL. The order is 32 mg. How many milliliters should be administered?
- A. 2 mL
 - B. 4 mL
 - C. 6 mL
 - D. 8 mL

Answers

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1. A
2. A
3. D
4. B
5. A
6. C
7. B
8. D
9. D
10. B

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Explanations

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1. Infuse 2 litres over 8 hours. What is the flow rate in mL/h?

A. 250 mL/h

B. 260 mL/h

C. 240 mL/h

D. 230 mL/h

Flow rate is the amount of fluid delivered per unit time. To find it in mL per hour, convert the volume to millilitres and divide by the time in hours. 2 litres equals 2000 millilitres, and over 8 hours that's $2000 \div 8 = 250$ mL/h. So the infusion rate is 250 millilitres per hour. If you kept litres, you'd get 0.25 L/h, which is the same as 250 mL/h since 1 L = 1000 mL.

2. The nurse must infuse 800 mg over 6 hours. The solution is 100 mg per 5 mL. How many mL per hour?

A. 6.67 mL/hr

B. 5.0 mL/hr

C. 8.0 mL/hr

D. 10.0 mL/hr

To find the infusion rate, first convert the dose to the volume of fluid using the solution's concentration, then divide by the infusion time. The solution has 100 mg in 5 mL, which is 20 mg per mL. To deliver 800 mg, you need $800 \text{ mg} \div 20 \text{ mg/mL} = 40$ mL. Infusing 40 mL over 6 hours means the rate is $40 \text{ mL} \div 6 \text{ h} \approx 6.67$ mL per hour (about 6.7 mL/hr).

3. Calculate the rate for 1.5 L Lactated Ringers to be given over 12 hours with tubing that delivers 25 gtt/mL. What is the rate in gtt/min?

A. 41 gtt/min

B. 39 gtt/min

C. 46 gtt/min

D. 52 gtt/min

To find the rate in gtt/min, multiply the volume in mL by the drip factor (gtt/mL) and divide by the infusion time in minutes. Convert 1.5 L to 1500 mL and 12 hours to 720 minutes. With a drip factor of 25 gtt/mL, the total drops are $1500 \times 25 = 37,500$ drops. Over 720 minutes, that's $37,500 \div 720 \approx 52.1$ gtt/min, which rounds to 52 gtt/min. This matches the given option.

4. The patient needs 0.1 mcg/kg/min of a drug. The patient weighs 40 kg. If the drug solution is 2 mg/mL, what is the mL/min?

- A. 0.008 mL/min
- B. 0.002 mL/min**
- C. 0.04 mL/min
- D. 0.12 mL/min

To set an infusion rate from a weight-based dose, first convert the desired dose into a rate in micrograms per minute, then use the drug's concentration to convert that into milliliters per minute. The patient needs 0.1 mcg/kg/min for 40 kg, so the dose rate is $0.1 \times 40 = 4$ mcg/min. The drug solution is 2 mg/mL, which is 2000 mcg/mL. The infusion rate in mL per minute is $4 \text{ mcg/min} \div 2000 \text{ mcg/mL} = 0.002 \text{ mL/min}$.

5. A drug order is 1000 mg to be given over 6 hours. The solution concentration is 500 mg per 5 mL. What is the infusion rate in mL/hr?

- A. 1.67 mL/hr**
- B. 0.83 mL/hr
- C. 3.33 mL/hr
- D. 5.0 mL/hr

Start with the idea that you convert the prescribed dose to the actual volume using the solution's concentration, then divide that volume by the time to get the infusion rate in mL per hour. The concentration is 500 mg in 5 mL, which is 100 mg per mL. To deliver 1000 mg, you need $1000 \text{ mg} \div 100 \text{ mg/mL} = 10 \text{ mL}$ total. Infusing 10 mL over 6 hours gives a rate of $10 \text{ mL} \div 6 \text{ h} = 1.667 \text{ mL/h}$, about 1.67 mL/hr. So the infusion rate is 1.67 mL/hr.

6. Calculate the drops per minute for an IV infusion delivering 900 mL over 6 hours with tubing of 15 gtt/mL.

- A. 36 gtt/min
- B. 37 gtt/min
- C. 38 gtt/min**
- D. 39 gtt/min

Calculating drops per minute starts with turning the total infusion into a rate in minutes and then converting to drops using the tubing's drop factor. First find the flow in mL per hour: 900 mL over 6 hours is $900/6 = 150$ mL/hour. Convert that to mL per minute: $150 \text{ mL/hour} \div 60 = 2.5 \text{ mL/min}$. With a drop factor of 15 gtt/mL, multiply: $2.5 \text{ mL/min} \times 15 \text{ gtt/mL} = 37.5 \text{ gtt/min}$. Since you can't deliver half a drop, round to the nearest whole drop per minute, which gives 38 gtt/min. So the rate is 38 drops per minute. The other numbers correspond to rounding down or up away from the nearest whole value.

7. A burette pump is set to deliver 60 mL over 15 minutes. What is the flow rate in mL/h?

- A. 40 mL/h
- B. 240 mL/h**
- C. 60 mL/h
- D. 180 mL/h

Flow rate is the amount of volume delivered per unit time. Here, 60 mL are delivered in 15 minutes. Convert to hours: 15 minutes is 0.25 hours. So the rate is 60 mL divided by 0.25 h, which equals 240 mL/h. You can also see it as $60 \text{ mL}/15 \text{ min} = 4 \text{ mL/min}$, and $4 \text{ mL/min} \times 60 \text{ min/h} = 240 \text{ mL/h}$. The flow rate is 240 mL per hour.

8. A patient needs 1,200 mL to be delivered over 12 hours. What is the infusion rate in mL per hour?

- A. 50 mL/hr
- B. 120 mL/hr
- C. 200 mL/hr
- D. 100 mL/hr**

Infusion rate is the volume delivered per hour, so divide the total volume by the total time. Here, $1200 \text{ mL} \div 12 \text{ h} = 100 \text{ mL per hour}$. This rate matches delivering 1200 mL in 12 hours. If you used 50 mL/hr, it would take 24 hours; 120 mL/hr would take 10 hours; and 200 mL/hr would take 6 hours.

9. The patient is to get 0.9% sodium chloride IV infusing at 65 mL/h for 4 hrs. The drop factor is 25 gtt/mL. What is the total volume that will be infused?

- A. 240 mL
- B. 250 mL
- C. 270 mL
- D. 260 mL**

The amount infused depends on multiplying the flow rate by the duration. 65 mL per hour for 4 hours gives $65 \times 4 = 260 \text{ mL total}$. The 0.9% NaCl concentration doesn't change the volume here; it's just the solution type. The drop factor (25 gtt/mL) would be used only if you needed the infusion rate in drops per minute, not for the total volume. For example, if you did need the drip rate: 260 mL over 240 minutes equals about 1.08 mL/min, which is $1.08 \times 25 \approx 27 \text{ gtt/min}$. So the total volume infused is 260 mL.

10. A drug is supplied as 8 mg/mL. The order is 32 mg. How many milliliters should be administered?

- A. 2 mL
- B. 4 mL**
- C. 6 mL
- D. 8 mL

You determine the volume to give by dividing the ordered dose by the drug's concentration, because the concentration tells you how many milligrams are in each milliliter. With a concentration of 8 mg per 1 mL, the required volume is $32 \text{ mg} \div 8 \text{ mg/mL} = 4 \text{ mL}$. You can verify this by back-calculating: $4 \text{ mL} \times 8 \text{ mg/mL} = 32 \text{ mg}$, which matches the order. The other amounts would deliver different total milligrams: 2 mL would be 16 mg, 6 mL would be 48 mg, and 8 mL would be 64 mg, so they don't meet the prescribed dose.

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Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

<https://indusioncalc.examzify.com>

We wish you the very best on your exam journey. You've got this!

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