

PRE-ACCREDITATION MATHS & LITERACY FOR NURSING

graduated exercises and practice exam

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A+ National
SAMPLE CHAPTER

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PRE-ACCREDITATION

Maths & Literacy for Nursing

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Unit 4: General Mathematics

Short-answer questions

Specific instructions to students

- This unit will help you to improve your general mathematical skills.
- Read the following questions and answer all of them in the spaces provided.
- You may not use a calculator.
- You need to show all working.

QUESTION 1

State the unit of measurement that you would use to measure:

a the length of a bandage

Answer:

b the temperature of a steriliser

Answer:

c an amount of sodium chloride solution

Answer:

d the weight of a patient

Answer:

e the voltage of a monitoring device

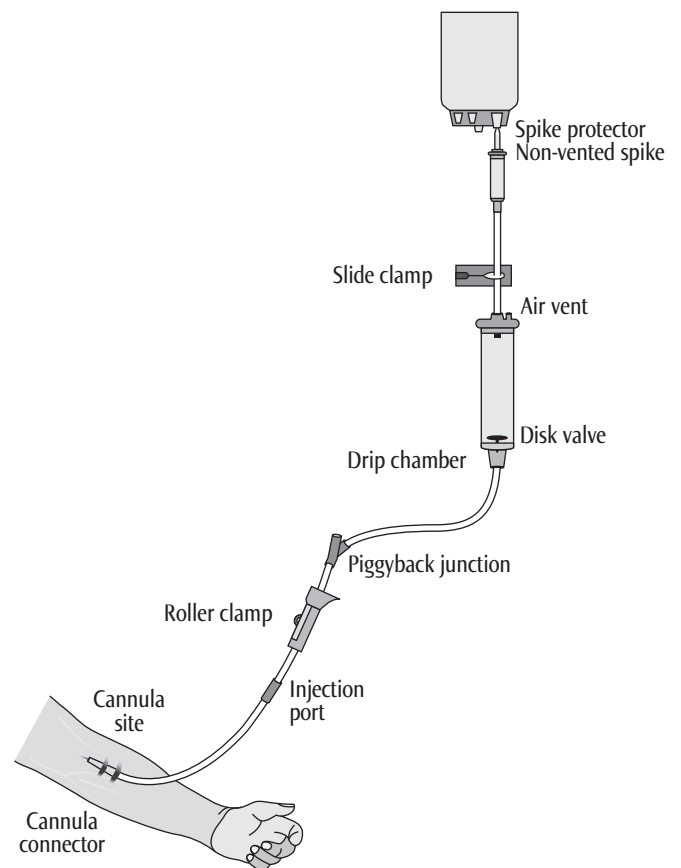
Answer:

f the length of an IV feeder

Answer:

g the cost of a consultation

Answer:



QUESTION 2

Give examples of how the following might be used in nursing.

a percentages

Answer:

b decimals

Answer:

c fractions

Answer:

d mixed numbers

Answer:

e ratios

Answer:

f angles

Answer:

QUESTION 3

Convert the following units.

a 12 kg to grams

Answer:

b 4 tonnes to kilograms

Answer:

c 120 cm to metres

Answer:

d 1140 mL to litres

Answer:

e 1650 g to kilograms

Answer:

f 1880 kg to tonnes

Answer:

g 13 m to centimetres

Answer:

h 4.5L to millilitres

Answer:

QUESTION 4

Write the following in descending order.

0.4 0.04 4.1 40.0 400.00 4.0

Answer:

QUESTION 5

Write the decimal number that is between:

a 0.2 and 0.4

Answer:

b 1.8 and 1.9

Answer:

c 12.4 and 12.6

Answer:

d 28.3 and 28.4

Answer:

e 101.5 and 101.7.

Answer:

QUESTION 6

Round off the following numbers to two (2) decimal places.

a 12.346

Answer:

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b 2.251

Answer:

c 123.897

Answer:

d 688.882

Answer:

e 1209.741

Answer:

QUESTION 7

Estimate the following by approximation.

a $1288 \times 19 =$

Answer:

b $201 \times 20 =$

Answer:

c $497 \times 12.2 =$

Answer:

d $1008 \times 10.3 =$

Answer:

e $399 \times 22 =$

Answer:

f $201 - 19 =$

Answer:

g $502 - 61 =$

Answer:

h $1003 - 49 =$

Answer:

i $10001 - 199 =$

Answer:

j $99.99 - 39.8 =$

Answer:

QUESTION 8

What do the following add up to?

a \$4, \$4.99 and \$144.95

Answer:

b 8.75, 6.9 and 12.55

Answer:

c 65 mL, 18 mL and 209 mL

Answer:

d 21.3 g, 119 g and 884.65 g

Answer:

QUESTION 9

Subtract the following.

a 2338 from 7117

Answer:

b 1786 from 3112

Answer:

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c 5979 from 8014

Answer:

d 11989 from 26221

Answer:

e 108767 from 231111

Answer:

QUESTION 10

Use division to solve the following.

a 2177 divided by 7

Answer:

b 4484 divided by 4

Answer:

c $63.9 \div 0.3$

Answer:

d $121.63 \div 1.2$

Answer:

e $466.88 \div 0.8$

Answer:

The following information is provided for Question 11.

To solve using BODMAS, in order from left to right, solve the Brackets first, then Of, then Division, then Multiplication, then Addition and lastly Subtraction. The following example has been done for you.

EXAMPLE

Solve $(4 \times 7) \times 2 + 6 - 4$.

STEP 1

Solve the Brackets first: $(4 \times 7) = 28$.

STEP 2

No Division, so next solve Multiplication: $28 \times 2 = 56$.

STEP 3

Addition is next: $56 + 6 = 62$.

STEP 4

Subtraction is the last process: $62 - 4 = 58$.

FINAL ANSWER:

QUESTION 11

Using BODMAS, solve the following.

a $(6 \times 9) \times 5 + 7 - 2$

Answer:

b $(9 \times 8) \times 4 + 6 - 1$

Answer:

c $3 \times (5 \times 7) + 11 - 8$

Answer:

d $5 \times (8 \times 3) + 9 - 6$

Answer:

e $7 + 6 \times 3 + (9 \times 6) - 9$

Answer:

f $6 + 9 \times 4 + (6 \times 7) - 21$

Answer:

Section A: Time

Short-answer questions

Specific instructions to students

- This unit will help you to calculate the volume of IV against the time needed to dispense it.
- Read the following questions and answer all of them in the spaces provided.
- You may not use a calculator.
- You need to show all working.

Use this formula to calculate the time left to dispense the amount of fluid remaining in the bag.

$$\frac{\text{volume remaining (in mL)}}{\text{drops per minute}} \times \frac{\text{drop factor}}{1} = \text{minutes remaining}$$

QUESTION 1

The drops per minute are set at 40 and 460 mL remains in the IV bag. The drop factor is set at 15 drops per millilitre. How many minutes remain?

Answer:

QUESTION 2

The drops per minute are set at 40 and 410 mL remains in the IV bag. The drop factor is set at 15 drops per millilitre. How many minutes remain?

Answer:

QUESTION 3

The drops per minute are set at 40 and 380 mL remains in the IV bag. The drop factor is set at 15 drops per millilitre. How many minutes remain?

Answer:

QUESTION 4

The drops per minute are set at 40 and 315 mL remains in the IV bag. The drop factor is set at 15 drops per millilitre. How many minutes remain?

Answer:

QUESTION 5

The drops per minute are set at 40 and 245 mL remains in the IV bag. The drop factor is set at 15 drops per millilitre. How many minutes remain?

Answer:

QUESTION 6

The drops per minute are set at 40 and 480 mL remains in the IV bag. The drop factor is set at 20 drops per millilitre. How many minutes remain?

Answer:

QUESTION 7

The drops per minute are set at 40 and 440 mL remains in the IV bag. The drop factor is set at 20 drops per millilitre. How many minutes remain?

Answer:

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QUESTION 8

The drops per minute are set at 40 and 400 mL remains in the IV bag. The drop factor is set at 20 drops per millilitre. How many minutes remain?

Answer:

QUESTION 9

The drops per minute are set at 40 and 365 mL remains in the IV bag. The drop factor is set at 20 drops per millilitre. How many minutes remain?

Answer:

QUESTION 10

The drops per minute are set at 40 and 305 mL remains in the IV bag. The drop factor is set at 20 drops per millilitre. How many minutes remain?

Answer:

QUESTION 11

The drops per minute are set at 40 and 490 mL remains in the IV bag. The drop factor is set at 60 drops per millilitre. How many minutes remain?

Answer:

QUESTION 12

The drops per minute are set at 40 and 410 mL remains in the IV bag. The drop factor is set at 60 drops per millilitre. How many minutes remain?

Answer:

QUESTION 13

The drops per minute are set at 40 and 330 mL remains in the IV bag. The drop factor is set at 60 drops per millilitre. How many minutes remain?

Answer:

QUESTION 14

The drops per minute are set at 40 and 315 mL remains in the IV bag. The drop factor is set at 60 drops per millilitre. How many minutes remain?

Answer:

QUESTION 15

The drops per minute are set at 40 and 265 mL remains in the IV bag. The drop factor is set at 60 drops per millilitre. How many minutes remain?

Answer:

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Section B: Drops per minute (dpm)

Short-answer questions

Specific instructions to students

- This unit will help you to calculate the volume of IV against the time needed to dispense it.
- Read the following questions and answer all of them in the spaces provided.
- You may not use a calculator.
- You need to show all working.

Use this formula to calculate the drops per minute (dpm).

$$\frac{\text{total volume to be administered (in mL)}}{\text{time (in minutes)}} \times \frac{\text{drop factor}}{1}$$

= drops per minute (dpm)

QUESTION 1

The total volume to be administered is 1400 mL over 600 minutes (10 hours) with a drop factor of 15. How many drops per minute will this be?

Answer:

QUESTION 2

The total volume to be administered is 1400 mL over 540 minutes (9 hours) with a drop factor of 15. How many drops per minute will this be?

Answer:

QUESTION 3

The total volume to be administered is 1000 mL over 480 minutes (8 hours) with a drop factor of 15. How many drops per minute will this be?

Answer:

QUESTION 4

The total volume to be administered is 800 mL over 300 minutes (5 hours) with a drop factor of 15. How many drops per minute will this be?

Answer:

QUESTION 5

The total volume to be administered is 500 mL over 240 minutes (4 hours) with a drop factor of 15. How many drops per minute will this be?

Answer:

QUESTION 6

The total volume to be administered is 1600 mL over 600 minutes (10 hours) with a drop factor of 20. How many drops per minute will this be?

Answer:

QUESTION 7

The total volume to be administered is 1600 mL over 480 minutes (8 hours) with a drop factor of 20. How many drops per minute will this be?

Answer:

QUESTION 8

The total volume to be administered is 1200 mL over 600 minutes (10 hours) with a drop factor of 20. How many drops per minute will this be?

Answer:

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QUESTION 9

The total volume to be administered is 1000 mL over 420 minutes (7 hours) with a drop factor of 20. How many drops per minute will this be?

Answer:

QUESTION 10

The total volume to be administered is 800 mL over 300 minutes (5 hours) with a drop factor of 20. How many drops per minute will this be?

Answer:

QUESTION 11

The total volume to be administered is 1400 mL over 600 minutes (10 hours) with a drop factor of 60. How many drops per minute will this be?

Answer:

QUESTION 12

The total volume to be administered is 1200 mL over 360 minutes (6 hours) with a drop factor of 60. How many drops per minute will this be?

Answer:

QUESTION 13

The total volume to be administered is 1000 mL over 600 minutes (10 hours) with a drop factor of 60. How many drops per minute will this be?

Answer:

QUESTION 14

The total volume to be administered is 800 mL over 300 minutes (5 hours) with a drop factor of 60. How many drops per minute will this be?

Answer:

QUESTION 15

The total volume to be administered is 500 mL over 180 minutes (3 hours) with a drop factor of 60. How many drops per minute will this be?

Answer:

Section C: Millilitres (mL) per hour

Short-answer questions

Specific instructions to students

- This unit will help you to calculate the volume of IV against the time needed to dispense it.
- Read the following questions and answer all of them in the spaces provided.
- You may not use a calculator.
- You need to show all working.

Use this formula to calculate the mL per hour rate needed for a given time and volume to be administered.

$$\frac{\text{total volume to be administered (in mL)}}{\text{time (hours)}} = \text{millilitres (mL) per hour}$$

QUESTION 1

The total volume to be administered is 1000 mL over 10 hours. How many millilitres per hour will this be?

Answer:

QUESTION 2

The total volume to be administered is 1200 mL over 10 hours. How many millilitres per hour will this be?

Answer:

QUESTION 3

The total volume to be administered is 1400 mL over 10 hours. How many millilitres per hour will this be?

Answer:

QUESTION 4

The total volume to be administered is 800 mL over 10 hours. How many millilitres per hour will this be?

Answer:

QUESTION 5

The total volume to be administered is 500 mL over 10 hours. How many millilitres per hour will this be?

Answer:

Use this formula to calculate millilitres per minute.

$$\frac{\text{total volume to be administered (mL)}}{\text{time (minutes)}} = \text{millilitres (mL) per minute}$$

QUESTION 1

The total volume to be administered is 1000 mL over 600 minutes. How many millilitres per minute will this be?

Answer:

QUESTION 2

The total volume to be administered is 1200 mL over 600 minutes. How many millilitres per minute will this be?

Answer:

QUESTION 3

The total volume to be administered is 1400 mL over 600 minutes. How many millilitres per minute will this be?

Answer:

QUESTION 4

The total volume to be administered is 800 mL over 300 minutes. How many millilitres per minute will this be?

Answer:

QUESTION 5

The total volume to be administered is 500 mL over 500 minutes. How many millilitres per minute will this be?

Answer:

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Unit 11: Tablet Dosage

Short-answer questions

Specific instructions to students

- This unit will help you to calculate the number of tablets that need to be administered.
- Read the following questions and answer all of them in the spaces provided.
- You may not use a calculator.
- You need to show all working.

Remember to convert all units of weight so that they are all in the same unit.

You will need to use the 'dose to be given' (as stated on the prescription) and 'stock strength' (which may also be stated as 'strength available' or 'stock dose' on the bottle) to use in the following formula.

$$\frac{\text{dose to be given}}{\text{stock strength}} = \text{number of tablets}$$

QUESTION 1

If the dose to be given is 1 g and the stock strength is 500 mg, how many tablets are to be given?

Answer:

QUESTION 2

If the dose to be given is 2 g and the stock strength is 1000 mg, how many tablets are to be given?

Answer:



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QUESTION 3

If the dose to be given is 1 g and the stock strength is 1000 mg, how many tablets are to be given?

Answer:

QUESTION 4

If the dose to be given is 0.5 g and the stock strength is 250 mg, how many tablets are to be given?

Answer:

QUESTION 5

If the dose to be given is 0.5 g and the stock strength is 500 mg, how many tablets are to be given?

Answer:

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