REGISTRATION ASSESSMENT SITTINGS 2020

Part 1 example questions

Notes

1. Questions 1 to 12 are examples from part 1 of the registration assessment.

2. The answers are on page 14.

3. In the registration assessment, where you see this icon, you may find the resource pack provided useful.

4. In the registration assessment, only reference sources provided in the resource pack may be used to answer questions in part 1 of the assessment.

5. In part 1 of the registration assessment, you may use an approved make and model of calculator as specified by the GPhC.

6. These questions are examples and do not cover the entire registration assessment framework.

7. More information on the registration assessment, including the answer sheets and how to complete these, is available in the pre-registration trainee pharmacist manual.
1. A 6-year-old child is taking Gaviscon suspension 10 mL four times a day. Gaviscon suspension contains 3.1 mmol Na⁺/5 mL.

The recommended daily allowance (RDA) of salt for a 6-year-old child is 3 g (equivalent to 1.2 g sodium) per day.

The relative atomic mass of sodium is 23.

What percentage of this child’s recommended daily salt allowance is contained in the total daily dose of Gaviscon suspension? Give your answer to the nearest whole number.

You may use this space for your rough working. Transfer your answer to your answer sheet.
2. The following hospital prescription is written for a 7-year-old child weighing 24 kg.

<table>
<thead>
<tr>
<th>Date</th>
<th>Infusion</th>
<th>Infusion rate</th>
<th>Prescriber signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>25/06/2020</td>
<td>Immunoglobulin 10% 0.5 g/kg</td>
<td>0.6 mL/kg/hr for 30 minutes then 1.2 mL/kg/hr for 30 minutes then 2.4 mL/kg/hr for 30 minutes then 4 mL/kg/hr for the remainder of the infusion</td>
<td>A. Doctor 25/06/2020</td>
</tr>
</tbody>
</table>

What is the total infusion duration in minutes if the immunoglobulin is infused at the prescribed rate? Give your answer to the nearest whole minute.

You may use this space for your rough working. Transfer your answer to your answer sheet.
A 55-year-old woman has a percutaneous endoscopic gastrostomy (PEG) tube in situ. She requires 1800 kcal per 24 hours from her enteral feed and has been instructed to use Nutrison Energy which contains 150 kcal per 100 mL. She would like to feed for 14 hours overnight.

At what rate in mL/hour should this feed be delivered? Give your answer to the nearest whole number.

You may use this space for your rough working. Transfer your answer to your answer sheet.
4. A 62-year-old man, who weighs 60 kg, attends a pre-admission clinic at your hospital two weeks prior to having orthopaedic surgery. He is found to have moderate anaemia and his doctor prescribes a course of subcutaneous Eprex (epoetin alfa). The epoetin alfa is given at a dose of 300 units/kg daily for 15 days.

How many units of epoetin alfa will this man be given, in total, during the 15-day course?

You may use this space for your rough working. Transfer your answer to your answer sheet.
5. A 1-month-old baby who weighs 3 kg has been diagnosed with gastro-oesophageal reflux disease. A prescription had been issued for ranitidine liquid 75 mg/5 mL at a dose of 2 mg/kg three times a day.

How many mL of ranitidine liquid should be administered to this baby per single dose? Give your answer to one decimal place.

You may use this space for your rough working. Transfer your answer to your answer sheet.
6. A patient is prescribed a cytotoxic medicine at a dose of 30 mg/m$^2$ daily for three days. The patient weighs 86 kg and is 1.84 m tall.

\[
\text{Body surface area (m}^2) = \sqrt{\frac{\text{weight (kg)} \times \text{height (cm)}}{3600}}
\]

How many 10 mg capsules are needed to provide the 3-day course of treatment?

You may use this space for your rough working. Transfer your answer to your answer sheet.
7. A 69-year-old man presents a prescription for prednisolone tablets 5 mg. The initial dose of 50 mg once daily is to be taken for 2 weeks. At the end of the two weeks he is to reduce his daily dose by 5 mg once each week until the course is finished. You supply your total stock of 100 tablets.

**How many tablets are owed to this man?**

You may use this space for your rough working. Transfer your answer to your answer sheet.
8. An 81-year-old man is being treated with diamorphine hydrochloride 90 mg given subcutaneously over 24 hours via a syringe pump. The diamorphine hydrochloride is diluted to a final volume of 22 mL with water for injection.

**What is the correct infusion rate in mL/hour that the syringe pump should be set at?**

**Give your answer to two decimal places.**

You may use this space for your rough working. Transfer your answer to your answer sheet.
9. A child who weighs 9 kg has nitrofurantoin 1 mg/kg at night prescribed for prophylaxis against recurrent urinary-tract infections.

How many mL of nitrofurantoin suspension 25 mg/5 mL should this child be given for each dose? Give your answer to one decimal place.

You may use this space for your rough working. Transfer your answer to your answer sheet.
10. A 53-year-old woman who weighs 78 kg presents to hospital after ingesting ethylene glycol (anti-freeze) 1 hour ago. In accordance with hospital guidance, the consultant requests to use oral ethanol for the management of the overdose. The oral loading dose of ethanol (in the form of whisky, gin, vodka at 40% by volume ethanol) is 2.5 mL/kg. The pharmacy department supply gin at 35% by volume ethanol.

How many mL of 35% gin will be required to provide a loading dose of ethanol for this patient? Give your answer to the nearest whole number.

You may use this space for your rough working. Transfer your answer to your answer sheet.
11. A 54-year-old man has bacterial meningitis that is sensitive to meropenem. He weighs 67 kg and has a BMI of 24 kg/m$^2$. He has a serum creatinine of 267 micromol/litre.

The SmPC for Meronem IV would be provided in the resource pack in the assessment. It can be accessed here https://www.medicines.org.uk/emc/medicine/11215

The Cockcroft and Gault formula for estimating creatinine clearance is provided below:

**Cockcroft and Gault formula**

\[
\text{Estimated Creatinine Clearance in mL/minute} = \frac{(140 - \text{Age}) \times \text{Weight} \times \text{Constant}}{\text{Serum creatinine}}
\]

- Age in years
- Weight in kilograms (use ideal body-weight where fat is likely to be the major contributor to body mass)
- Serum creatinine in micromol/litre
- Constant = 1.23 for men; 1.04 for women

What is the recommended total daily dose of meropenem in grams for this man?

You may use this space for your rough working. Transfer your answer to your answer sheet
12. You are working as a pharmacist in a GP practice and have been asked to help reduce expenditure on medicines. As a result, you are reviewing the use of tolterodine 4 mg m/r tablets, as these cost more than tolterodine 2 mg tablets at an equivalent dose.

Costs are shown below:

<table>
<thead>
<tr>
<th></th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tolterodine 4 mg m/r tablets</td>
<td>£25.78 per 28 tablets</td>
</tr>
<tr>
<td>Tolterodine 2 mg tablets</td>
<td>£2.88 per 56 tablets</td>
</tr>
</tbody>
</table>

You have reviewed nine patients who are prescribed tolterodine 4 mg m/r tablets daily on repeat prescription and have identified that seven of them could potentially switch to using the tolterodine 2 mg tablets at a dose of one tablet twice a day. The practice has a repeat prescribing policy of 56 days treatment on a prescription.

What is the total saving for the practice for six repeats assuming all seven suitable patients switch to using the tolterodine 2 mg tablets? Give your answer to the nearest pound.

You may use this space for your rough working. Transfer your answer to your answer sheet.
Answers

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td>48.</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td>134</td>
<td></td>
<td>minute(s)</td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td>86</td>
<td></td>
<td>mL/hour</td>
</tr>
<tr>
<td>4.</td>
<td>270</td>
<td></td>
<td>000</td>
<td></td>
<td>unit(s)</td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td>0.4</td>
<td></td>
<td></td>
<td>mL</td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td>18</td>
<td></td>
<td></td>
<td>capsule(s)</td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td>355</td>
<td></td>
<td></td>
<td>tablet(s)</td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td>0.92</td>
<td></td>
<td></td>
<td>mL/hr</td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td>18</td>
<td></td>
<td></td>
<td>mL</td>
</tr>
<tr>
<td>10.</td>
<td></td>
<td>223</td>
<td></td>
<td></td>
<td>mL</td>
</tr>
<tr>
<td>11.</td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td>g</td>
</tr>
<tr>
<td>12.</td>
<td></td>
<td>1924</td>
<td></td>
<td></td>
<td>pound(s)</td>
</tr>
</tbody>
</table>

For further advice watch our [video presentation](#) on how to complete your answer sheet.