| Question number | Answer | Notes | Marks |
|---|---|---|---|
| 6 (a) | using a balance;<br><br>suitable method to subtract mass of container; | ignore weighing scales / scales<br>e.g.<br>• measure mass of similar empty container and subtract<br>• place another container on balance and press zero then pour liquid into this container | 2 |
| (b) | any two from:<br><br>MP1. measuring cylinder placed on horizontal surface;<br>MP2. reading taken from bottom of meniscus/eq;<br>MP3. reading taken at eye level (to avoid parallax);<br>MP4. wait for all liquid to run down the sides of the measuring cylinder;<br>MP5. ensure measuring cylinder is empty before use; | ignore idea of 'repeat and average'<br>condone 'flat surface' | 2 |
| (c) | use of density formula;<br>evaluation of density of liquid;<br>liquid is sunflower oil;<br><br>e.g.<br>density = 150 / 163<br>density = 0.92 (g/cm$^3$)<br>closest to sunflower oil => liquid is sunflower oil | unsupported correct conclusion scores 1 mark only | 3 |

Total for Question 6 = 7 marks

| Question number | Answer | Notes | Marks |
|---|---|---|---|
| 7 | any six from:<br><br>MP1. cat X loses more energy by conduction / convection than cat Y;<br><br>MP2. cat Y loses more energy by radiation than cat X;<br><br>MP3. fur traps air;<br><br>MP4. larger surface area increases conduction (losses);<br><br>MP5. air is a (good) insulator/ poor conductor;<br><br>MP6. fur is a (good) insulator / poor conductor;<br><br>MP7. trapped air cannot move around;<br><br>MP8. trapped air reduces convection;<br><br>MP9. black surfaces are better emitters / emit radiation faster; | allow RA throughout<br><br>ignore black surfaces being better absorbers | 6 |

Total for Question 7 = 6 marks