1) $\frac{350\,mg}{25\,mL} = 14\,mg/mL$

Recommended range is 10 mg to 40 mg per mL
Does the dilution fall in the recommended range? **Yes**

2) Medication: Ranitidine 18 mg
Mixed in: 10mL NS
What is the concentration? **1.8 mg/mL**

$\frac{18\,mg}{10\,mL} = 1.8\,mg/mL$

3) Dose: 200mg - 300 mg/kg/24hrs in equally divided dose q4 to 6hrs
Weight: 30kg
200mg x 30 = 6000
300mg x 30 = 9000
Range: 6000 - 9000 mg/24hrs
(B) 1200mg every 4hrs is within range

4) Med: 1000 mg
Patient: 20kg
Recommended Dose: 50 - 75 mg/kg in 24hrs
Do not exceed a total does of 2gm in 24hrs
50 x 20 = 1000 mg
75 x 20 = 1500 mg
Range: 1000 - 1500 mg
Is the prescribed med in recommended range? **Yes**

5) Med: 700 mg BID x 2 = 1400mg/day
Patient: 20kg
Recommended Dose: same as #4
Range: 1000 - 1500mg
Is the prescribed med in recommended range? **Yes**

6) Patient: 30kg
Dose: 40mg/kg/24hrs equally divided & given q 6, 8, or 12hrs
Do not exceed 2gm in 24hrs
30kg × 40mg/kg/24hrs = 1200 mg/24hrs
~~A. 200mg q6hrs = 800mg~~
B) 400mg q8hrs = 1200mg
~~C. 100mg q 12hrs = 200mg~~
D. 1200mg q 24hrs = 1200mg

7) $\frac{25mL}{30min} = \boxed{50mL/1hr}$

{Additional practice problems}

1) Med: 275 mg q 12hrs
Patient: 6.5kg
Recommended Dose: 80-90 mg/kg/day divided q 12hrs
Concentration of Suspension: 250mg/5mL
6.5kg × 80 = 520 mg/day
6.5kg × 90 = 585mg/day
Recommended range: 520 - 585mg/day or $\boxed{260 - 292.5mg \text{ every } 12hrs}$
$\frac{275mg}{250mg} \times 5mL = \boxed{5.5mL}$

2) Med: 1 gram (1100mg) IV q12hrs
Patient: 15kg
Recommended Dose: 50-75 mg/kg/day OR 25-275 mg/kg q12hrs
Do not exceed: 2gm/24hrs
Range: 750 - 1125 mg/day or 375 - 412.5 mg/q12hrs
The nurse would: C

3) 40 mg/kg × 16kg = 640mg/8 hrs

$\frac{640mg}{25mL} = 25.6 mg/mL$

$\frac{25mL}{15min} \times 60 = 100 mL/hr$

$\frac{25mL}{30min} \times 60 = 50 mL/hr$

A prudent nurse will: [A] administer the med at 50mL/hr

4) $\frac{10mg}{50mL}$ @ 8hrs = 0.2mg/mL every 8hrs

20 min × 3 = 60 min 50 50 × 3 = 150
30min × 2 = 60 min 50 × 2 = 100
} 100 - 150 mL/hr is appropriate

The most appropriate rate to set the IV pump is [C] 100 mL/hr