These math problems are on the volume of diluent and the flow rate for the infusion. (mL is rounded to tenth if over 1) Answers

1. An IV of an antibiotic of 750 mg in 3 mL was ordered by the doctor to be diluted to a total of 25 mL of NS to infuse over 40 minutes.
    a. What is the volume of diluent _22_____ mL
    b. What is the flow rate ____37.5_____ mL/hr
2. 1.5 grams/2mL of an antibiotic is to be diluted to a total of 40 mL of NS and administered over 40 minutes.
    a. What is the volume of diluent ____38____ mL
    b. What is the flow rate _____60____ mL/hr
3. Over 35 minutes, a dosage of 20 mg in 2 mL has been ordered and must be diluted to 30 mL.
    a. What is the volume of diluent _28_____ mL
    b. What is the flow rate _____51.4____ mL/hr
4. 500,000 U of an antibiotic preparation with a volume of 4 mL is ordered by the doctor. It must be diluted to 50 ML D5 ½ NS to infuse in 1 hr.
    a. What is the volume of diluent ____46_____ mL
    b. What is the flow rate ____50____ mL/hr
5. 200 mg in 4 mL is to be diluted to 50 mL and administered over 70 minutes.
    a. What is the volume of diluent _____46____ mL
    b. What is the flow rate ____42.9____ mL/hr
6. A dosage of 25 mg in 5 mL is ordered diluted to 40 mL and needs to be administered in 50 min.
    a. What is the volume of diluent _____35__ mL
    b. What is the flow rate _____48__ mL/hr

1a.   mL | 25 mL – 3 mL = 22 mL
1b. mL/hr | 25 mL / 40 mn x   60 mn/1 hr = 1500/40 = 37.5 mL

2a.   mL | 40 mL – 2 mL = 38 mL
2b. mL/hr | 40 mL / 40 mn x   60 mn/1 hr = 2400/40 = 60 mL

3a.   mL | 30 mL – 2 mL = 28 mL
3b. mL/hr | 30 mL / 35 mn x   60 mn/1 hr = 1800/35 = 51.4285=51.4mL

4a.   mL | 50 mL – 4 mL = 46 mL
4b. mL/hr | 50 mL / 1 hr = 50 mL

5a.   mL | 50 mL – 4 mL = 46 mL
5b. mL/hr | 50 mL / 70 mn x   60 mn/1 hr = 3000/70 = 42.8571=42.9mL

6a.   mL | 40 mL – 5 mL = 35 mL
6b. mL/hr | 40 mL / 50 mn x   60 mn/1 hr = 2400/50 = 48 mL