

WORK SHEET

DIRECTIONS: The medication order is listed at the beginning of each problem. Calculate the child's weight in kilograms, determine the safe and therapeutic dosage or range, determine the safety of the order, and calculate the drug dose. Show your work.

- The licensed prescriber orders cephalexin 250 mg po four times a day for a child weighing 50 lb. You have cephalexin 250-mg capsules. The recommended daily po dosage for a child is 25 to 50 mg/kg/day in divided doses q 6 h. a. Child's weight is _____ kg. b. What is the safe and therapeutic range for this child? _____ c. Is the order safe? _____ d. If yes, how many capsules will you administer? _____

NDC 0777-0869-02
100 PULVULES[®] No. 402

KEFLEX[®]
CEPHALEXIN
CAPSULES, USP
250 mg

CAUTION—Federal (U.S.A.) law prohibits dispensing without prescription. Keep Tightly Closed Store at Controlled Room Temperature 59° to 86°F (15° to 30°C) WV 3473 DPX

Manufactured by
DISTA PRODUCTS CO.
a Division of Ferring Pharmaceuticals
a Subsidiary of Eli Lilly and Company
Indianapolis, IN, U.S.A.
Expiration Date/Control No.

Usual Adult Dose—One PULVULE every 6 hours. For more severe infections, dose may be increased, not to exceed 4 g a day. See literature. Each PULVULE contains Cephalexin Monohydrate equivalent to 250 mg Cephalexin. Dispense in a tight container.

- The licensed prescriber orders digoxin 12.5 mg po daily for an infant weighing 6 lb 8 oz. You have digoxin 0.05 mg/mL. The recommended daily dosage for an infant is 0.035 to 0.06 mg/kg/day in divided doses two times a day. a. Child's weight is _____ kg. b. What is the safe and therapeutic range for this child? _____ c. Is the order safe? _____ d. If yes, how many milliliters will you administer? _____

60 mL NDC 0173-0264-27

LANOXIN[®]
(DIGOXIN)
ELIXIR
PEDIATRIC

Each mL contains
50 µg (0.05 mg)
PLEASANTLY FLAVORED

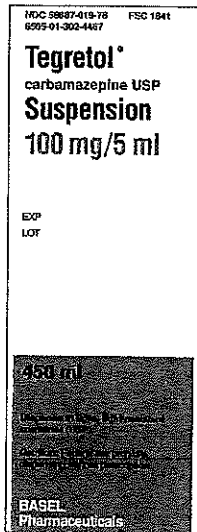
Alcohol 10%, Methylparaben 0.1% (added as a preservative)
For indications, dosage, precautions, etc., see accompanying package insert.
Store at 15° to 25°C (59° to 77°F) and protect from light.
CAUTION: Federal law prohibits dispensing without prescription.

GlaxoWellcome
Glaxo Wellcome Inc.
Research Triangle Park, NC 27709
Made in U.S.A. Rev. 2/95 542404

- The licensed prescriber orders diphenhydramine 25 mg IV q 6 h for a child weighing 50 lb. You have available diphenhydramine 12.5 mg/mL. The recommended daily dosage for a child weighing more than 12 kg is 5 mg/kg/24 h in four divided doses. a. Child's weight is _____ kg. b. What is the safe and therapeutic dosage for this child? _____ c. Is the order safe? _____ d. If yes, how many milliliters will you prepare? _____


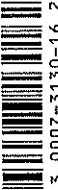
4. Calculate the 24-hour maintenance fluids for a child who weighs 28 lb. a. _____
b. How many milliliters per hour are needed to deliver the maintenance fluids? _____
5. The licensed prescriber orders cefdinir 70 mg po twice a day for a child weighing 22 lb. The recommended dosage for cefdinir is 14 mg/kg/24 h twice a day for 10 days for skin infections. It is available as 125 mg/5 mL. a. Child's weight is _____ kg. b. Is the order safe and therapeutic? Prove your answer. _____ c. If the dose is safe and therapeutic, how many milliliters are needed to deliver the ordered dose? _____
6. The licensed prescriber orders ciprofloxacin 300 mg q 12 h po for a child weighing 30.3 kg. You have ciprofloxacin 250 mg/5 mL. The recommended oral dosage is 20 to 30 mg/kg/24 h q 12 h. a. Child's weight is _____ kg. b. What is the safe and therapeutic 24-hour dosage range for this child? _____ c. What is the single-dose range for this child? _____ d. How many milliliters are needed to deliver the ordered dose? _____
7. The licensed prescriber orders prednisolone 45 mg twice a day po for an asthmatic child weighing 94 lb. You have prednisolone 15 mg/5 mL. The recommended oral dosage is 0.5 to 2 mg/kg/24 h divided twice a day. Maximum dosage is not to exceed 80 mg/24 h. a. Child's weight is _____ kg. b. What is a safe and therapeutic dosage range for this child? _____ c. Is the order safe? _____ d. Would you administer this medication as dosed? _____
8. The licensed prescriber orders phenytoin 60 mg po q 12 h for a child weighing 40 lb. You have phenytoin 30-mg chewable tablets available. The recommended oral dosage for a child is 5 to 7 mg/kg/24 h in divided doses q 12 h. a. Child's weight is _____ kg. b. What is the safe and therapeutic 24-hour dosage range for this child? _____ c. Is the order safe? _____ d. If yes, how many chewtabs will you administer per dose? _____
9. A child is to receive vancomycin 750 mg IVPB q 6 h. The child weighs 68 lb. The recommended dosage of vancomycin is 40 to 60 mg/kg/24 h. a. Child's weight is _____ kg. b. What dose per kilogram per 24 hours is the child receiving? _____ c. Is the order safe? _____
10. The licensed prescriber orders amoxicillin 300 mg po q 12 h for a child weighing 42 lb. You have amoxicillin 125 mg/5 mL. The recommended oral dosage is 25 to 50 mg/kg/24 h q 12 h. a. Child's weight is _____ kg. b. What is the safe and therapeutic single-dose range for this child? _____ c. How many milliliters are needed to deliver the ordered dose? _____

11. The licensed prescriber orders carbamazepine 150 mg po three times a day for a child weighing 58 lb. You have carbamazepine 100 mg/5 mL. The recommended oral dosage for a child is 10 to 20 mg/kg/24 h divided in doses three times a day. a. Child's weight is _____ kg. b. What is the safe and therapeutic single dose range for this child? _____ c. Is the order safe? _____ d. If yes, how many milliliters are needed? _____



12. Calculate the 24-hour maintenance fluid requirements for a child who weighs 72 lb.
 a. Child's weight is _____ kg. b. The maintenance fluid requirements are _____.
 c. How many milliliters per hour are needed to deliver the maintenance fluids? _____
13. The licensed prescriber orders ibuprofen 100 mg for a child who weighs 52 lb. Recommended dose for ibuprofen is 5 to 10 mg/kg/dose q 6 h. It is available as 100 mg/5 mL. a. Child's weight is _____ kg. b. What is a safe and therapeutic single-dose range for this child? _____ c. How many milliliters are needed to deliver the ordered dose? _____
14. The licensed prescriber orders cefazolin 350 mg po q 6 h for a child weighing 81 lb. You have cefazolin 500 mg/5 mL. The recommended daily oral dosage is 25 to 50 mg/kg/24 h divided q 6 h. a. Child's weight is _____ kg. b. What is the safe and therapeutic single-dose range for this child? _____ c. Is the order safe? _____ d. If yes, how many milliliters will you prepare? _____
15. The licensed prescriber orders cimetidine 60 mg po q 8 h for an infant weighing 16 lb. Cimetidine 300 mg/5 mL is available. The recommended daily oral dosage is 15 to 20 mg/kg/24 h divided q 8 h. a. Child's weight is _____ kg. b. What is the safe and therapeutic dosage range for this child? _____ c. Is the order safe? _____ d. How many milligrams per kilogram per 24 hours is the child receiving? _____ e. If the ordered dosage is safe, how many milliliters will you administer? _____

16. The licensed prescriber orders prednisone 8 mg po q 12 h for a child weighing 19 lb. You have prednisone syrup 5 mg/5 mL. The recommended oral dosage is 0.5 to 2 mg/kg/24 h given once daily or divided and given in two doses per day. a. Child's weight is _____ kg. b. What is a safe and therapeutic single-dose range for this child? _____ c. Is the order safe? _____ d. If yes, how many milliliters will you draw up? _____
17. A 25-kg child has an order for gentamicin 40 mg IVPB twice a day over 20 minutes. The concentration of the vial states 10 mg/mL. The recommended infusion concentration is 2 mg/mL. a. How many milliliters of medication will provide 40 mg of gentamicin? _____ b. How many milliliters of IV solution need to be added to the medication to equal the recommended final concentration? _____ c. How many drops per minute of gentamicin should be infused? _____
- 18-23. *Patient Situation:* A 4-year-old patient is admitted with staphylococcal meningitis. The patient is lethargic with a temperature of 102°, heart rate of 120 beats per minute, respiratory rate of 26 breaths per minute, and a blood pressure of 90/60 mmHg. The patient weighs 32 lb. The white blood cell count is $19.2 \text{ cells} \times 10^3 / \mu\text{L}$ ($19.2 \times 10^3 / \text{L}$). The physician orders cefazolin 400 mg intravenously (IV) every 8 hours; the recommended daily IV daily dose for a child is 100 mg/kg/24 h. The nurse is preparing the initial dose of cefazolin.

EXP.	equivalent to 1 gram cefazolin NDC 0007-3130-16	NSN 6505-01-262-9508 Before reconstitution protect from light and store between 15° and 30°C (59° and 85°F). Usual Adult Dosage: 250 mg to 1 gram every 6 to 8 hours. See accompanying prescribing information. For I.M. administration add 2.5 mL of Sterile Water for Injection. SHAKE WELL. Withdraw entire contents. Provides an approximate volume of 3.0 mL (300 mg/mL). For I.V. administration see accompanying prescribing information. Reconstituted Ancef is stable for 24 hours at room temperature or for 10 days if refrigerated (5°C or 41°F). SmithKline Beecham Pharmaceuticals Philadelphia, PA 19101	  3 0007-3130-16 2
	ANCEF® CEFAZOLIN FOR INJECTION (LYOPHILIZED) Formerly sterile cefazolin sodium (lyophilized)		
LOT	25 Vials for Intramuscular or Intravenous Use	694115-P	K3130-16

Which of the following statements regarding the cefazolin calculations are accurate? Place an X before accurate statements.

- _____ 18. The child is ordered to receive 1250 mg/day.
- _____ 19. The dose is safe, but may not be therapeutic.
- _____ 20. The concentration of the cefazolin is 300 mg/mL.
- _____ 21. The child's weight is 14.5 kg (rounded to the nearest tenth).
- _____ 22. The safe and therapeutic dose for this child is 1350.54 or 1350.5 mg/day.
- _____ 23. The nurse should administer 1.2 mL (rounded to the nearest tenth) of cefazolin with each dose.