Pediatric Med Math Practice Quiz #1 Key
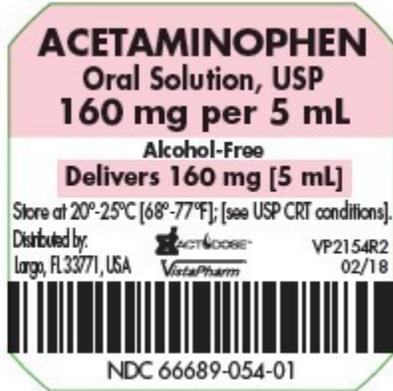
Show your calculations

1. A 2-year-old weighs 12 kg. The provider orders acetaminophen 160 mg PO q4 hours PRN for pain. Acetaminophen available is pictured. How many mL(s) will the nurse give each time they administer the prescribed dose? Round to the nearest whole number.

ACETAMINOPHEN
Oral Solution, USP
160 mg per 5 mL
Alcohol-Free
Delivers 160 mg [5 mL]
Store at 20°-25°C [68°-77°F]; [see USP CRT conditions].
Distributed by:
Largo, FL 33771, USA   VistaPharm   VP2154R2   02/18
NDC 66689-054-01

$\dfrac{160}{160} * 5 \rightarrow (5) = 5\,mL$

1

   a. If the safe dose range is between 10-15 mg/kg/dose. Is the prescribed does a safe amount to be given in a 24-hour period?
$10(12) = 120\,mg/dose$
$15(12) = 180\,mg/dose$
Answer: YES. The order of 160 mg falls within the safe dosage range of 120-180 mg/dose.

2. A 13-month-old infant weighs 8 kg and is ordered Augmentin 125 mg PO TID. The safe dosage range is 20-40 mg/kg/24 hours. Is the prescribed dose within the safe dose range?
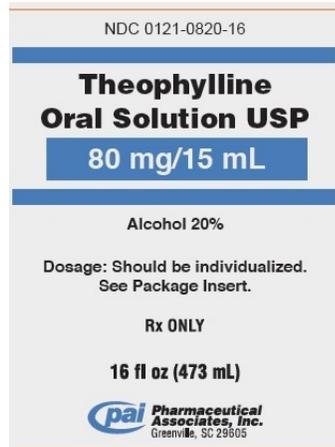$8(20) = 160\,mg/day$
$8(40) = 320\,mg/day$
RANGE: 160-320 mg/day

   a. Based on the current order, what is the total amount of Augmentin in mg given in 24 hours? Is the ordered dosage safe for this child?
$125(3) = 375\,mg/day$
NO. 375 mg/day $>$ 320 mg/day

3. A 3-year-old child weighs 13 kg and is ordered Theophylline 65 mg QID via G-tube. The safe dosage is 22 mg/kg/day. The available dosage is pictured. What is the safe dosage for this child?

NDC 0121-0820-16

Theophylline Oral Solution USP

80 mg/15 mL

Alcohol 20%

Dosage: Should be individualized. See Package Insert.

Rx ONLY

16 fl oz (473 mL)

pai Pharmaceutical Associates, Inc. Greenville, SC 29605

$$22(13)=286\,mg/day$$

   a. How many mL(s) should the nurse draw up to be given for each dose? Round to the nearest whole number.
   $$\frac{65}{80}*15=12.1875 \to 12\,mL$$

4. A 2-month-old weighs 16 lbs. They have Famotidine oral suspension ordered at 0.5 mg/kg once daily. The oral suspension available is pictured. How many mg(s) will be administered per dose? Round to the nearest hundredth.

NDC 43386-**500**-11

Famotidine for Oral Suspension, USP

40 mg/5 mL

400 mg of famotidine

Constituted to 50 mL, each 5 mL contains 40 mg famotidine

Cherry-Banana-Mint Flavored

SHAKE WELL BEFORE USING

NOT FOR INJECTION

Rx Only

GAVIS PHARMACEUTICALS

$$16\,lbs/2.2=7.27272727\,kg$$

$$0.5(7.27272727)=3.6363636364\,mg \to 3.64\,mg$$

   a. How many mL(s) will be administered per dose? Round to the nearest hundredth.
   $$\frac{3.64}{40}*5=0.455\,mL \to 0.46\,mL$$

5. An adolescent who weighs 142 lbs. and is 4 feet 10 inches tall. What is their body surface area (BSA) in m²? Round to the nearest hundredth.

  a. $\dfrac{142}{2.2}=64.545454545\,kg$

  b. $4(12)=48\,inches$

  c. $48(2.54)+10(2.54)=147.32\,cm$

  d. $\sqrt{147.32(64.5454545)}$

  e. $\sqrt{\dfrac{9{,}508.8362}{3600}}$

  f. $\sqrt{2.6413433}$

  g. ¿1.625221

  h. $1.63\,m2$

6. A child who weighs 13.6 kg and is 90 cm tall. What is their body surface area (BSA) in m²? Round to the nearest hundredth.

  a. $\sqrt{13.6(90)}$

  b. $\sqrt{\dfrac{1224}{3600}}$

  c. $\sqrt{0.34}$

  d. ¿$0.5830951\,m2$

  e. $0.58\,m2$

7. A 6 kg child comes to the emergency department with dehydration. How many mL(s) per day is this child's daily fluid maintenance? Round to the nearest whole number.

  a. Formula: 3.5-10 kg= 100 mL/kg
  b. $6(100\,mL)=600\,mL/day$

8. A 44 lbs child comes to the surgery department for a tonsillectomy. How many mL(s) per day is this child's daily fluid maintenance? Round to the nearest whole number.

   a. $\dfrac{44}{2.2}=20\,kg$

   b. Formula: 11-20 kg = 1000 mL + 50 mL/kg for every kg over 10

   c. $1000\,mL+50\,(20-10)$

   d. $1000\,mL+50\,(10)$

   e. $1000\,mL+500=1500\,mL/day$

9. A 28 kg child comes to the emergency department with a fracture. How many mL(s) per day is this child's daily fluid maintenance? Round to the nearest whole number.

   a. Formula: >20 kg= 1500 mL + 20 mL/kg over 20 kg

   b. $1500\,mL+20\,(28-20)$

   c. $1500\,mL+20\,(8)$

   d. $1500\,mL+160=1,660\,mL/day$