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Cowling's Rule: d=D(a+1)/24

a=child's age

d=child's dose

D=adult dose

I was chosen to solve for #9

1st part of question:

D=400md a=8 yr old child. we are finding the dose for the child

use the equation of d=D(a+1)/24

we plus in our numbers for our formula: d=400(8+1)/24

we first do the parenthesis first which turns out to be d+400(9)/24. we then solve for 400 x 9=3600. Then we solve for 3600/24 which equals 150mg doses for the child.

2.D=500mg

d=250mg we are trying to find the Childs age

we next solve for the equation for the 2nd part. We still use the literal equation d=D(a+1)/24. we substititute with our new numbers to plug into the equation. 250=500(a+1)/24. We first we have to get rid of the 24 divided by 500(a+1)/24 so the problem looks like this 250(24)=500(a+1)(24)/24. This gets rid of the 24 on the right and we have to multiply on the left. the equation ends up being 6000=500(a+1). We then need to divide both sides by 500. 6000/500=500(a+1)/500. The 500 cancels out on the right and then we divide 6000/500. We get 12=a+1. We are solving for a. so we subtract both sides by -1 and get 12-1=a+1-1. This cancels out the ones on the right and just leaves 12-1=a. we subtract 12-1 and get 11 which means a=11. The child is 11 yrs ol