Medication

In the world of medicine, every minute of relief can count for something. Once medicine enters the blood stream it will soon have its most powerful effect because it has its highest concentration. Over time the concentration reduces and once it reaches a certain level, the medicine will no longer be effective. The concentration level of medicines can be most accurately modeled by rational functions.

In this assignment, there are models for 5 different prescription medications. It is generally accepted that when a concentration of a medicine is below 0.15 mg/L is no longer effective. It is your job to determine how long each medicine is above the 0.15 mg/L level and rank them from longest relief to shortest relief.

	Model (t is in minutes)	Length of Effectiveness (round to the nearest minute)
Anvil	$A(t) = \dfrac{5.6t}{0.2t^2 + 2.3}$	
Bozak	$B(t) = \dfrac{4.85t}{0.1t^2 + 3.2}$	
Crylenol	$C(t) = \dfrac{8.2t}{0.3t^2 + 4.6}$	
Depto	$D(t) = \dfrac{10.2t}{0.3t^2 + 3.1}$	
Equal	$E(t) = \dfrac{7.135t}{0.4t^2 + 5.2}$	
--Longest acting to shortest acting—		

Suppose each of the medicines were administered at the times below. At what time would they no longer be effective?

	Administered at…	No longer effective at…
Anvil	3:16 PM	
Bozak	7:05 AM	
Crylenol	6:51 PM	
Depto	11:41 PM	
Equal	10:28 AM	