Planetary Travel Time

The solar system is huge! Using current technology, it takes a long time to get from Earth to another planet. Do the math and figure out just how long! Then, figure out how long it would take if we could travel at the speed of light (~1,079,000,000 km/hr).

First, figure out how far you would have to travel, on average, if you could travel in a straight line to your destination.

Write an equation for determining the distance Mercury is from Earth:

Mercury distance from Earth = Earth distance from the Sun - Mercury dist. from the Sun

Write an equation for determining the distance Jupiter is from Earth:

Jupiter distance from Earth = Jupiter distance from the Sun - Earth dist. from the Sun

Planet/Dwarf Planet	**Distance from the Sun (km)**	**Distance from Earth (km)**
Mercury	57,900,000	**91,700,000**
Venus	108,200,000	**41,400,000**
Earth	149,600,000	**0**
Mars	227,900,000	**78,300,000**
Jupiter	778,600,000	**629,000,000**
Saturn	1,433,500,000	**1,283,900,000**
Uranus	2,872,500,000	**2,722,900,000**
Neptune	4,495,100,000	**4,345,500,000**
Pluto	5,906,400,000	**5,756,800,000**

Next, compute the length of time (in hours) it would take you if you were walking, riding a bike, driving a car, riding on a rocket, or traveling at the speed of light.

Write an equation for determining travel time, t: **t = distance ÷ rate of travel**

Planet/Dwarf Planet	**Walking** (5 km/hr)	**Riding Bike** (20 km/hr)	**Driving Car** (120 km/hr)	**Riding Rocket** (365,000 km/hr)	**Traveling at the speed of light**
Mercury	**18,340,000**	**4,585,000**	**764,167**	**251.23**	**0.08**
Venus	**8,280,000**	**2,070,000**	**345,000**	**113.42**	**0.04**
Earth	**0**	**0**	**0**	**0**	**0**
Mars	**15,660,000**	**3,915,000**	**652,500**	**214.52**	**0.07**
Jupiter	**125,800,000**	**31,450,000**	**5,241,667**	**1,723.29**	**0.58**
Saturn	**256,780,000**	**64,195,000**	**10,699,167**	**3,517.53**	**1.19**
Uranus	**544,580,000**	**136,145,000**	**22,690,833**	**7,460.00**	**2.52**
Neptune	**869,100,000**	**217,275,000**	**36,212,500**	**11,905.48**	**4.03**
Pluto	**1,151,360,000**	**287,840,000**	**47,973,333**	**15,772.05**	**5.34**