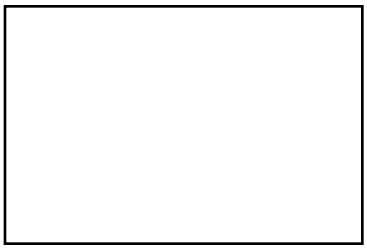
Distance Rate Time Problems

1. A car traveling at 56 mph overtakes a cyclists who, traveling at 14 mph, had a 1.5 hours head start. How far from the starting point does the car overtake the cyclist?

Objects	Rate mph	Time	Distance
Car			
Cyclist			

2. A helicopter traveling 120 mph overtakes a speeding car traveling 90 mph. The car had a **one-half** hour head start. How far from the starting point did the helicopter overtake the car?

Objects	Rate mph	Time	Distance
Helicopter			
Car			



3. Two planes are 1380 miles apart and traveling toward each other. One plane traveling 80 mph faster than the other plane. The planes meet in 1.5 hours. Find the speed of each plane.

Objects	Rate mph	Time	Distance
Plane A			
Plane B			

4. Two cars are 295 miles apart and traveling toward each other. One car travels 10 mph faster than the other car. The cars meet in 2.5 hours. Find the speed of each car.

Objects	Rate mph	Time	Distance
Car I			
Car II			

5. A ferry leaves a harbor and travels to a resort island at an average speed of 18 mph. On the return trip, the ferry travels at an average speed of 12 mph due to fog. The total time for the trip is 6 hours. How far is the island from the harbor?

Objects	Rate mph	Time	Distance
Going			
Returning			

6. A commuter plane provides transportation from an international airport to the surrounding cities. One commuter plane averaged 210 mph flying to a city and 140 mph returning to the international airport. The total flying time was 4 hours. Find the distance between the two airports.

Objects	Rate mph	Time	Distance
Going			
Returning			

7. Two planes start from the same point and fly in opposite directions. The first plane is flying fifty mph slower than the second plane. In 2.5 hours the planes are 1400 miles apart. Find the rate of each
plane.

Objects	Rate mph	Time	Distance
Plane A			
Plane B			

8. Two hikers start from the same point and hike in opposite directions around a lake whose shoreline is 13 miles. One hiker walks 0.5 mph faster that the other hiker. How fast did each hiker walk if they meet in 2 hours?

Objects	Rate mph	Time	Distance
Hiker I			
Hiker II			

9. A student rode a bicycle to the repair shop and then walked home. The student averaged 14 mph riding to the shop and 3.5 mph walking home. The round trip took one hour. How far is it between the student's home and the bicycle shop?

Objects	Rate mph	Time	Distance
Going			
Returning			

10. A passenger train leaves a depot 1.5 hours after a freight train leaves the same depot. The passenger train is traveling 18 mph faster than the freight train. Find the rate of each train if the passenger train overtakes the freight train in 2.5 hours.

Objects	Rate mph	Time	Distance
Passenger			
Freight			

11. A plane leaves an airport at 3 p.m. At 4 p.m. another plane leaves the same airport traveling in the same direction at a speed 150 mph faster than the first plane. Four hours after the first plane takes off, the second plane is 250 miles ahead of the first plane. How far did the second plane travel?

Objects	Rate mph	Time	Distance
Plane A			
Plane B			

12. A jogger and a cyclist set out at 9 a.m. from the same point headed in the same direction. The average speed of the cyclist is four times the speed of the jogger. In 2 hours, the cyclist is thirty three miles ahead of the jogger. How far did the cyclist ride?

Objects	Rate mph	Time	Distance
Jogger			
Cyclist			

13. A truck leaves a depot at 10 a.m. and travels at 50 mph. At 10:30 a.m., a van leaves the same place and travels the same route at 65 mph. At what time does the van overtake the truck?

Objects	Rate mph	Time	Distance
Truck I			
Truck II			

14. A commuter plane flew to a small town from a major airport at an average speed of 300 mph. The average speed on the return trip was 200 mph. What is the distance between the two airports if the total flying time was 4 hours?

Objects	Rate mph	Time	Distance
Plane I			
Plane II			

15. At 1:30 p.m., an airplane leaves Tucson for Baltimore, a distance of 2240 miles. The plane flies at 280 miles per hour. A second airplane leaves Tucson at 2:15 p.m., and is scheduled to land in Baltimore 15 minutes before the first airplane. At what rate must the second airplane travel to arrive on schedule?

Objects	Rate mph	Time	Distance
Plane A			
Plane B			

16. Two trains leave York at the same time, one traveling north, the other south. the first train travels at 40 miles per hour and the second at 30 miles per hour. In how many hours will the trains be 245 miles apart?

Objects	Rate mph	Time	Distance
Train A			
Train B			

29. Martha drove from her home to the county fairgrounds an average rate of 70 km/h and returned on the same road averaging 50 km/h. If the round trip took 3 hours on the road, how far does Martha live from the county fairgrounds?

Objects	Rate mph	Time	Distance
Going			
Returning			

18. Two cyclists are traveling in the same direction on the same bike path. One travels at 20 miles per hour and the other at 14 miles per hour. After how many hours will they be 15 miles apart?

Objects	Rate mph	Time	Distance
Cyclist A			
Cyclist B			

19. At the same time Kris leaves Washington, D. C. for Detroit, Amy leaves Detroit for Washington, D. C. The distance between the cities is 510 miles. Amy's average speed is 5 miles per hour faster than Kris's. How fast is Kris driving if they pass each other in 6 hours?

Objects	Rate mph	Time	Distance
Kris			
Amy			

20. Art leaves at 10:00 a. m., traveling at 50 miles per hour. At 11:30 a. m., Jennifer starts in the same direction at 45 miles per hour. when will they be 100 miles apart?

Objects	Rate mph	Time	Distance
Art			
Jennifer			

21. One plane flew 130 km with the help of a tail wind in twice the time that a similar plane flew 60 km against the wind. Find the rate of the wind if each plane can fly 250 km/h when there is no wind.

Objects	Rate mph	Time	Distance
Plane I			
Plane II			

22. Sam began a marathon run at 6:30 A.M. and averaged 12 km/h while Pam began the run at 7:00 A.M. and averaged 15 km/h. At what time did Pam pass Sam?

Objects	Rate mph	Time	Distance
Sam			
Pam			