



# Math Olympiad and Problem Solving Programs

F120 - Intermediate Problem Solving

Problem Set 16.1 - Meet

Name:

Date:

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1.
2.
3. We want the cars to meet in the middle of the road, which is 480 miles long. So the middle is  $480 \div 2 = 240$  miles away. We need to find how long the Porsche takes to drive its half of the road. Our equation is  $T = D \div R$ . The distance is 240 miles, the rate is 60 miles per hour. So the time it takes the Porsche to drive its half of the road is  $T = 240 \div 60 = 4$  hours. Now we will do the same for the truck. The truck drives 240 miles at 40 miles per hour, so the time it takes is  $T = 240 \div 40 = 6$  hours. So the truck takes 6 hours to drive the road and the Porsche takes 4 hours. Therefore the truck needs to leave  $6 - 4 =$  .
4.
5. One train travels twice as fast as the other train. That means that one travel covers twice the distance of the other train. So we need to split the 918 mile distance between the cities in threes:  $918 \div 3 = 306$  miles. So while one train covers 306 miles, the other train travels twice the distance, or  $306 \times 2 = 612$  miles. (Quick check:  $306 + 612 = 918$ . Good) We need the speed of the faster train. The faster train travels 612 miles in 6 hours, and our rate equation is  $R = D \div T$ . So we calculate  $R = 612 \div 6 =$
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7.
8.
9.
10.